

A report on excavations carried out on a Type R Settlement Unit (Khartoum 1) in the Jacobsdal district, O.F.S.

by

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INTRODUCTION

In 1971 Mr T. M. O'C. Maggs published a paper on "Pastoral Settlements on the Riet River" (Maggs 1971) wherein he described the Type R settlements and the results of excavations carried out on one of these settlements. In 1972 the present writer attempted a synthesis of all existing and newly acquired information on the Type R settlements in an effort to see the cultural system in the context of its natural and social environment (Humphreys 1972). During the course of the latter project excavations were carried out on another of the Type R Settlement Units (designated Khartoum 1) and the purpose of this paper is to describe these excavations and the material recovered. The discussion will be confined exclusively to the excavation report; none of the other data acquired during the course of the project will be presented here as it is available elsewhere (Humphreys 1972) and may ultimately be published in its own right.

TERMINOLOGY

A hierarchy of terms was developed during the course of the project to describe various abstract levels of "settlement." Of these terms only two need be defined for the purposes of this paper. The first of these is *structure*. A Structure is any clearly visible artificial arrangement of stones; three subgroups can be defined but of these only the first is of relevance here. This consists of "Walls or walling" which are stones packed in a line so as to produce a straight or curved wall of any length. "Primary walling" is continuous walling which can join up with itself to form a "primary enclosure" or simply an "enclosure"; it is usually circular or oval in ground plan. "Secondary walling" is walling which abutts onto one or more primary walls—i.e. it is usually built after the primary wall. Secondary walling may have been constructed in such a way as to create a second enclosure "attached" to the primary enclosure in which case the enclosure so formed, is called a "secondary enclosure."

The second term to be used in this paper is *Settlement Unit*. A Settlement Unit is defined as any group of Structures which occur in close association in a recurring pattern, thereby forming a unit which may be regarded as having some socio-economic significance. The "recurring pattern" in a Type R Settlement Unit as defined by Maggs (1971) and Humphreys (1972) is a large centrally placed primary enclosure partially surrounded by a number of smaller primary enclosures. Fig. 3 which shows the ground plan of Settlement Unit Khartoum 1, is a good example of a "typical" Type R Settlement Unit.

THE SITING OF KHARTOUM 1

Khartoum 1 is situated on the farm Langhoek in the Jacobsdal district ($29^{\circ} 16,3' S$ $24^{\circ} 44,6' E$). The name "Khartoum" is derived from the original farm Khartoum which was just north of Langhoek; today, however, Khartoum has been incorporated in the farm Langhoek and the original name has fallen into disuse. The name "Khartoum" has, nevertheless, been retained in the designation of the Settlement Units as all the original farm names and boundaries are shown on the 1:50,000 map series and it is upon these maps that the occurrence of Settlement Units has been plotted.

Langhoek is about 16 km south of Jacobsdal in the western Orange Free State, on the old Jacobsdal-Koffiefontein road and lies on the south bank of the Riet River. Khartoum 1 is situated on a dolerite ridge just to the east of the main road. A second Settlement Unit, Khartoum 2, is located just south of Khartoum 1. The sketch in Fig. 1, which is based upon an aerial photograph, shows Khartoum 1 and 2 and their relationship to the dolerite outcrops.

The geology of the area (Fig. 2) is typical of the entire Riet River area despite the change from Ecca to Dwyka in the western section. The area is a flat landscape of Ecca shales covered by red sand and river silts (along the river), punctuated by kopjes and ridges composed of Karoo Dolerite. The Settlement Units occur on a dolerite ridge which seems to be part of a relatively widespread dolerite outcrop; just south of the ridge with the Settlement Units is a low kopje which is part of the same dolerite outcrop although differential weathering has cut the kopje off from the ridge—on the surface, at least. West of the main road is another dolerite ridge, again probably related to the main outcrop. Away to the west there is a low range of dolerite kopjes while to the north is the tall Pramberg, and several other kopjes. Further kopjes and ridges occur to the south of the Settlement Units. The dolerite ridge on which the Settlement Units occur is the nearest ridge to the river which lies about 1 km to the east. The area between the ridge and the river is a flat shale surface covered by a thin layer of soil. Excavations just below the dolerite ridge showed the surface soil to be about 20—30 cm deep, but it probably increases in depth as the river is approached, and the terraces encountered.

The dolerite ridge itself is a prominent feature in the landscape and can be seen from a distance. It is typical of the dolerite ridges in the area consisting of large boulders with a thin covering, in places, of red sand. This red sand is probably derived from the weathering of the dolerite (Piaget 1963). The structure of the ridge, as produced by natural weathering, has very largely dictated the siting of the Settlement Units. As can be seen in Fig. 1 the most prominent part of the ridge runs more or less NW—SE; to the south this ridge falls away steeply to the normal ground level presenting a steep rocky face which has to be traversed with care, though not with difficulty. On the north side, however, the drop from the top of the ridge is not so steep, nor does it go down to normal ground level. There is, rather, an elevated area about 100 m across which is covered by a thin layer of red sand, which is, in turn, bounded by a further outcrop of boulders which slope down to the normal ground surface. Looking at the dolerite ridge from the north-east, therefore, it appears as a raised platform with a higher ridge running along the back. It is on this elevated "platform" that Khartoum 1 is situated. The Settlement Unit commands a good view to the north and north-east (towards the river) while being bounded to the south and west by the higher ridge.

Khartoum 2, on the other hand, is situated to the south of the high ridge. The Structures are actually built on the normal shale ground level with the steep dolerite ridge forming a natural backdrop to the north of the Settlement Unit. The low kopje is situated about 100 m to the south and provides some protection from that direction. Khartoum 2, being situated on the normal ground level, does not command the same view as does Khartoum 1 and the nearest point on the river is not visible from the Settlement Unit itself.

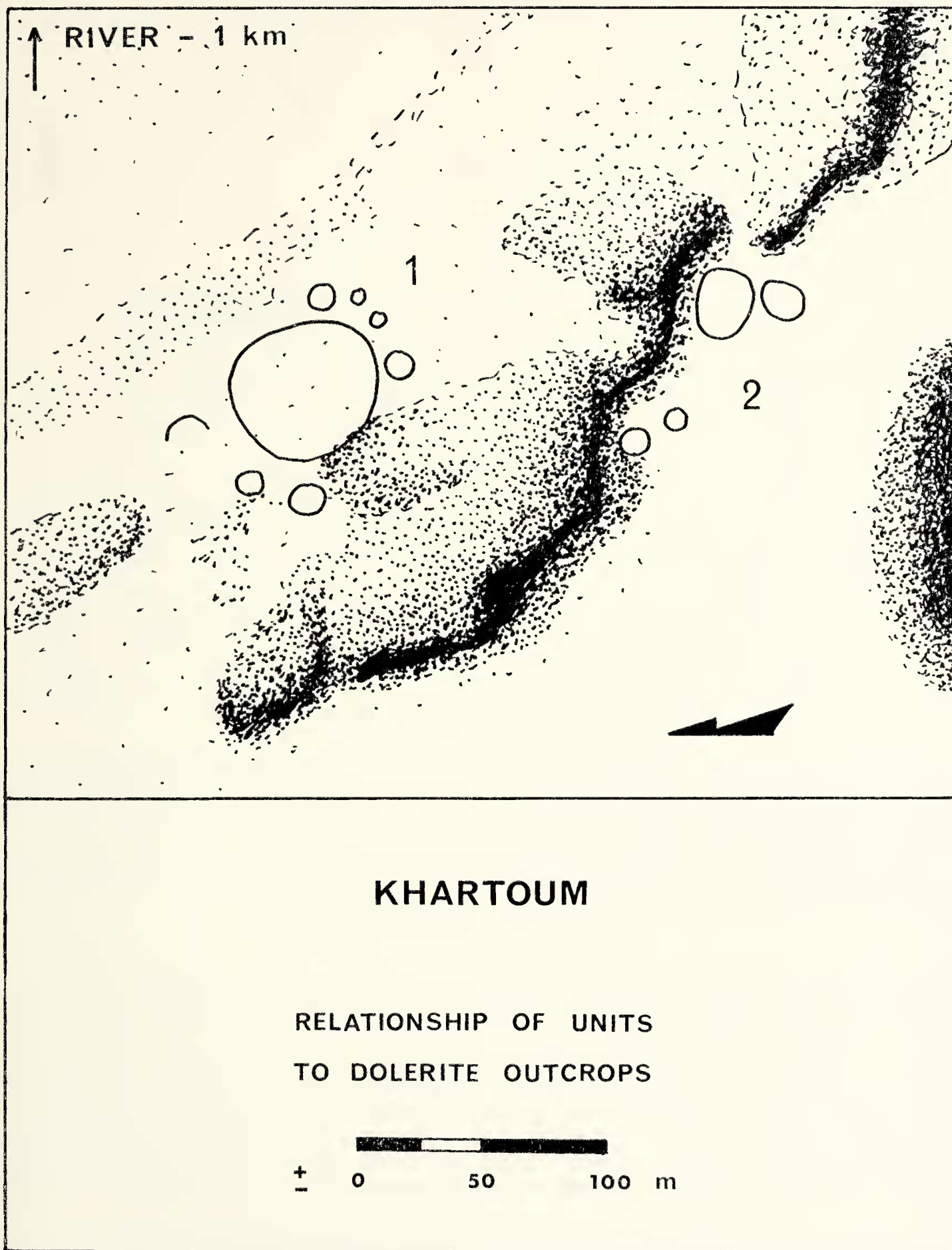


Fig. 1. Sketch from an aerial photograph showing the relationship between Khartoum 1 and Khartoum 2 and the dolerite outcrop.

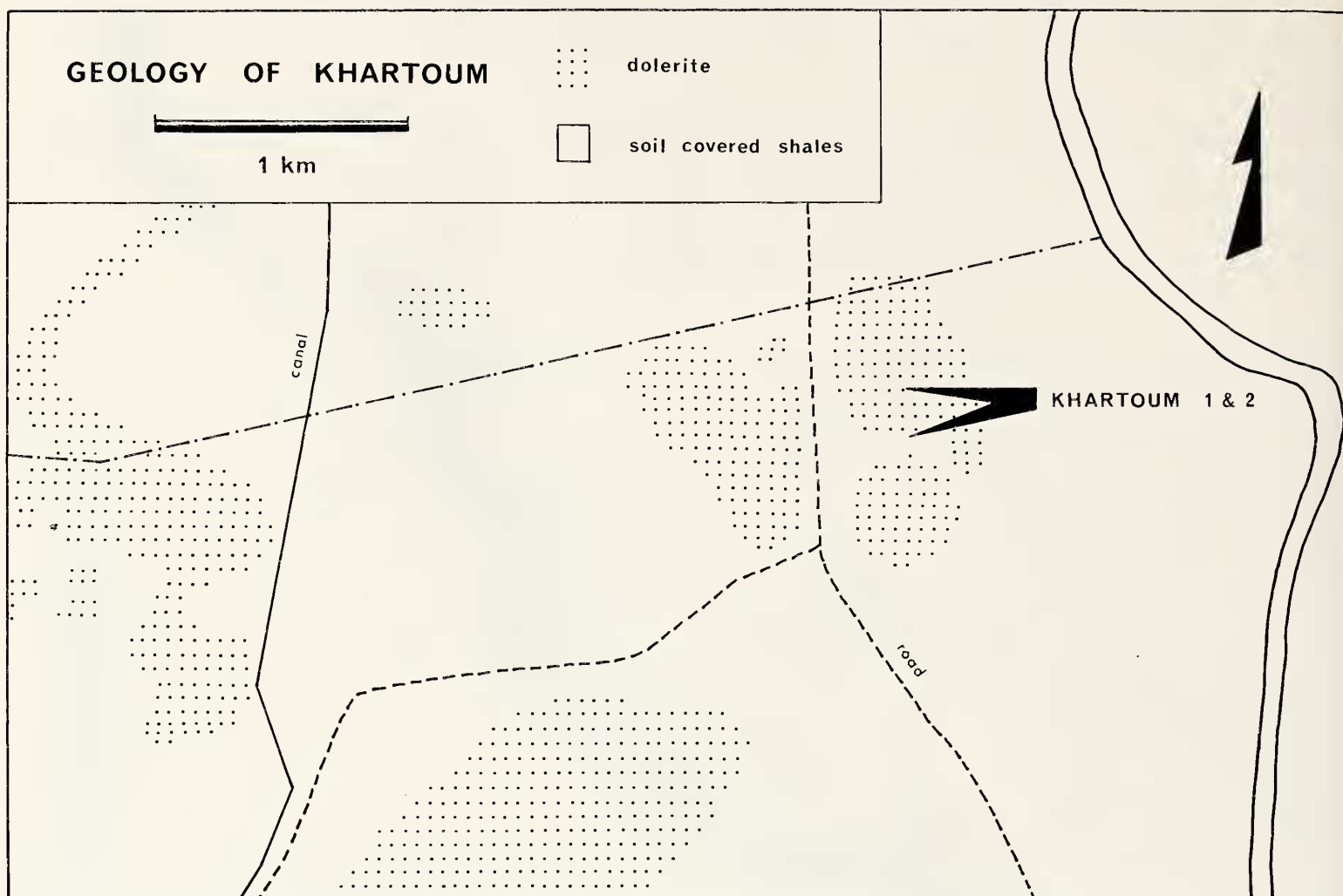


Fig. 2. The Geology of Khartoum and portion of Langhoek.

The plain between the dolerite ridge and the river is treeless but, following the rains of early 1972, a good growth of grass (mainly *Aristida*) occurred around the dolerite ridge and down as far as the erosion dongas on the river terraces. On the dolerite ridge, however, there are several shrubs and large trees.

The siting of Khartoum 1 and 2 is similar to that of all Type R Settlement Units, although, of course, each Settlement Unit is to a certain extent unique in itself.

THE SETTLEMENT UNITS

Khartoum 1 exhibits the "classic" Type R Settlement Unit ground plan (Fig. 3), consisting of a centrally placed large primary enclosure, surrounded by a series of smaller primary enclosures. In this instance Structure L is the large primary enclosure while Structures A, B, G, H, J and K represent the small primary enclosures. Structure D, which is today only a semi-circle, may well have been a complete circle when it was used; although the stone circle is not complete, inspection of the deposit seems to suggest that the circle was carried on as indicated by the dotted line in the Figure. Structure C occurs a little way away on a gentle slope and there is no direct evidence to suggest that it ever formed a complete circle. Structures E and F are isolated walls and there is no evidence to show that they were ever parts of enclosures.

The large primary enclosure, Structure L, is very nearly a perfect circle some 52 m in diameter. The walling, in common with the other Structures, is very much collapsed and is little more than 0,5 m in height today. The original width of the wall would have been about

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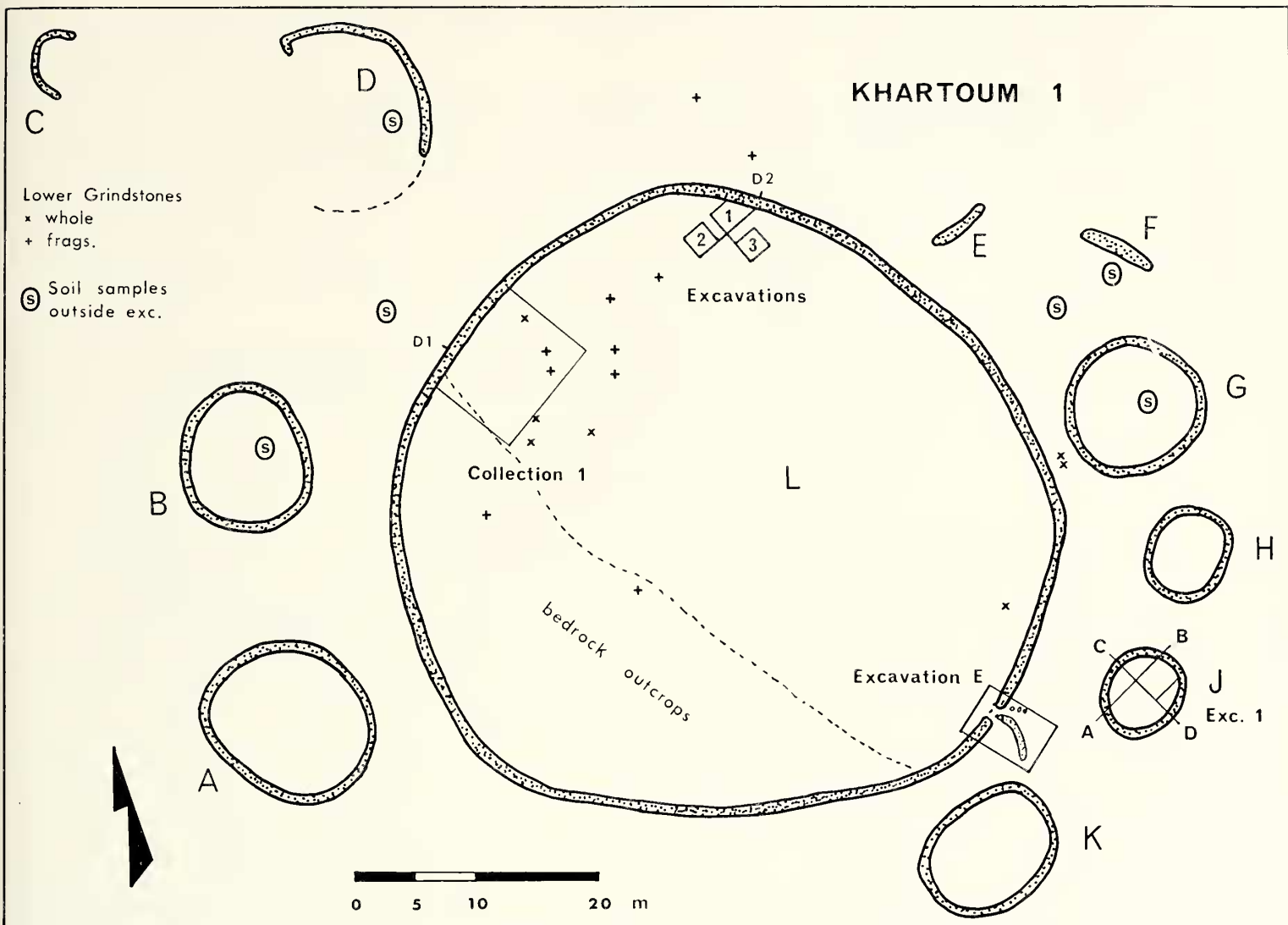


Fig. 3. Ground plan of Khartoum 1 showing the various Structures and the locations of the excavations.

1 m. The wall is built of dolerite boulders of perhaps 25—30 cm in length on average. The boulders were packed together to create the walling but being for the most part rounded, the walling could never have been as solid as it would have been had flat slabs been used. The nature of the building material is undoubtedly a factor which contributed to the present day collapsed state of the walls. An interesting feature in Structure L is the apparent determination of the builders to create as near a perfect circle as possible. The south-westerly section of the wall meets the steep edge of the main high dolerite ridge but instead of the wall running along the base of this ridge, and so distorting the circle, it actually mounts the ridge and is built on the slope of the ridge for the distance required to maintain the symmetry of the circle. It is, furthermore, of interest to note that the walling does not merely abutt the ridge, but is actually continued over it so forming a complete primary enclosure.

Evidence of an entrance in the primary enclosure Structure L would be of importance, but there is no clear indication where an entrance could have been. The most likely spot is on the south side near Structures J and K. Here there is a distinct break in the walling about 2 m wide. At right angles to this and directly in front of the opening is a trail (rather than a wall) of stones about 5 m long, as well as various isolated stones dotted about. It is not entirely clear what the purpose of this "wall" is or if the "entrance" is in fact an entrance. A possible explanation for the arrangement is that the trail of stones represents the material that had at one time filled in the entrance and that at some stage either during the occupation or later,

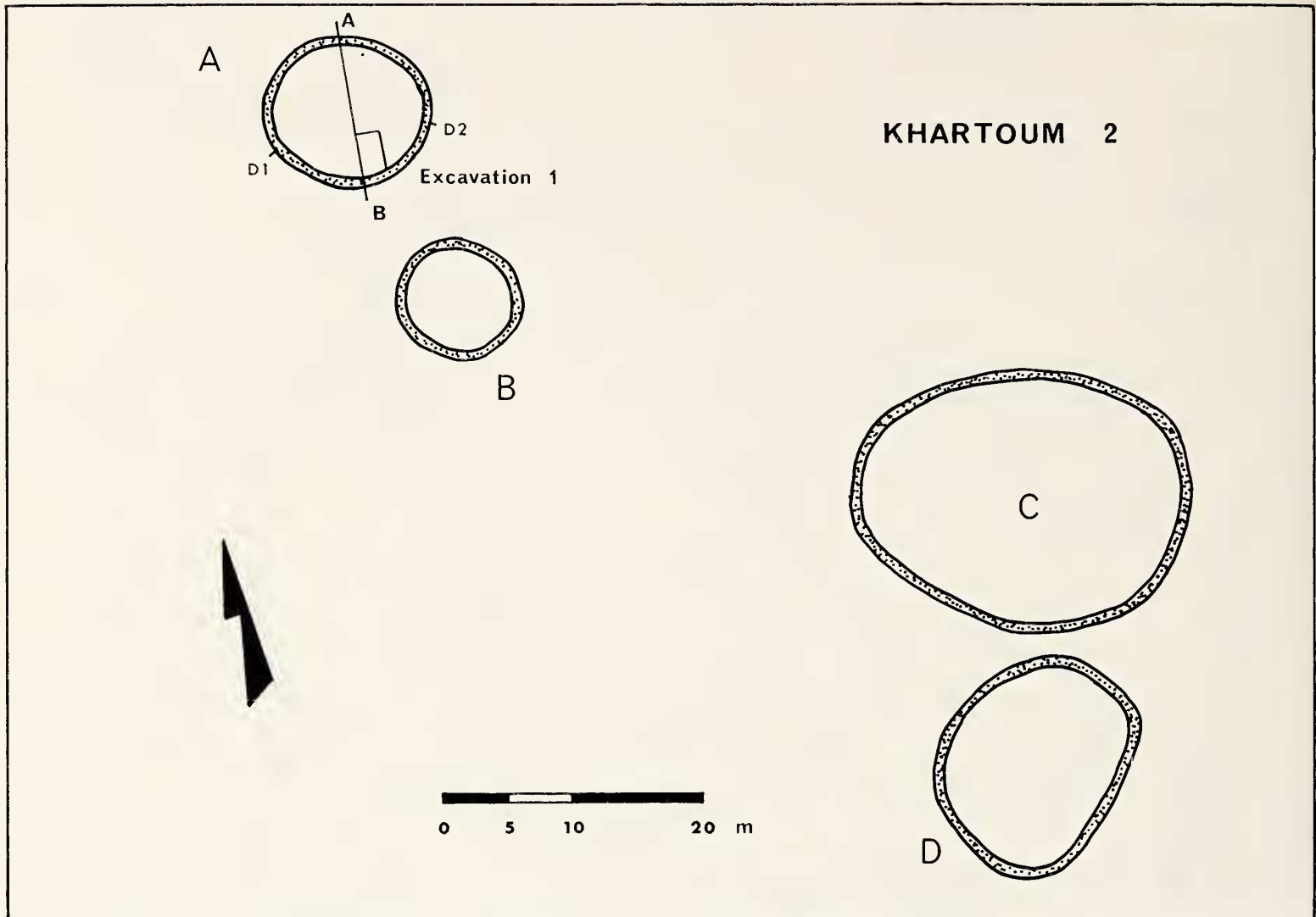


Fig. 4. Ground plan of Khartoum 2.

an entrance or break was made in the enclosure. The writer is not entirely happy about the entrance, because the walling at each side of the entrance does not appear to have been "finished off" and also because continuing along the entrance is a double row of stones flush with the present ground surface suggesting wall "foundations", all part of the actual enclosure wall.

More or less directly opposite to this "entrance", just north of the excavations, is another "possible entrance". This one is, however, even less convincing than the first. It is an "entrance" today but it still exhibits the same continuity in the wall despite the fact that most of the stones have been removed. These entrances may well have been made relatively recently either by the farmers or by shepherds in order to facilitate the entry of stock into the large enclosures for today they provide as good, if not better grazing than the surrounding area. This growth is probably caused by the relatively higher phosphate content of the soils within the enclosures (Maggs 1971; Appendix 2).

The small primary enclosures were constructed in the same way as the large primary enclosure; there does not appear to be any appreciable difference in the existing height or thickness of the various walls. In contrast to many of the Settlement Units, all the Structures are clearly defined and recognisable. A most important factor contributing to the clarity of the Structures is the relative scarcity of general dolerite rubble. At Khartoum 1 (and more so at Khartoum 2 being situated on a shale rather than a dolerite bedrock) the immediate vicinity consists of a good soil cover. On other Settlement Units (like Pramberg 1 and 2 immediately

to the north) there is so much rubble lying about that it is difficult to distinguish some of the more collapse walling.

None of the small primary enclosures (Structures A, B, D, G, H, J and K) has a clearly defined entrance—not even anything approaching the two “possible entrances” in Structure L.

There is at present little that can be said about Structures E and F. The shallowness of the deposit in their immediate area does not seem to justify excavation. A soil sample was taken next to Structure F to see if any increase in P_2O_5 content could be noted—the result of this test will be discussed later.

Turning now to Khartoum 2, we see a slightly different picture. Khartoum 2 is not as well defined in terms of the Type R pattern as is Khartoum 1 (Fig. 4). The large primary enclosure is not as obvious as it is on other Settlement Units. Structure C is, however, the largest enclosure and therefore rates as the “large” enclosure. It is more or less centrally placed with Structure D being to the south and Structures A and B to the west. There do not seem to have been any more Structures in the immediate vicinity.

The construction of the walls is similar to that on Khartoum 1. None of the enclosures has any obvious entrance.

Khartoum 1 and 2 between them show all except two of the features associated with the actual layout of the Type R Settlement Unit. The exceptions are the partial surrounding walls and secondary walling. Partial surrounding walls are, as the name implies, walls that surround part of the actual Settlement Unit, but never seem to be completed in that they do not form an enclosure around the entire Settlement Unit. It is not clear what the function of these Structures was, but they were obviously not very important to the inhabitants because they occur only on a handful of Settlement Units. All of those which the writer has seen seem to be placed between the Settlement Unit and an adjacent high kopje and so one possible function may have been to stem the direct flow of rain run-off from the kopje and to divert the water away from the actual enclosures. However, this explanation may not be the entire answer for there are other Settlement Units at the base of kopjes which do not have surrounding walls (Cf. Humphreys 1972).

Secondary walling seems to have been equally unimportant to the inhabitants for, like the surrounding wall, it does not occur with any great frequency nor is its occurrence consistent where it does occur. It may merely relate to individual ideosyncrasies or specific unknown circumstances on some Settlement Units. There is certainly no evidence at the moment to give a more concrete explanation.

The most important Structures on a Type R Settlement Unit therefore seem to be the primary enclosures which are rated either as “large” or “small”. Clearly terms such as “large” and “small” without definition are relatively meaningless and so in order to see the range of sizes of enclosures and to try and give some meaning to the terms “large” and “small”, the diameters of all primary enclosures observed on 18 Settlement Units were measured. A total of 105 enclosures was measured and the results are shown in a histogram in Fig. 5.

The histogram shows a large number of enclosures from 4—8 m in diameter and then another large group 20—24 m in diameter tailing off to 50-odd m in diameter. The important thing in this histogram is the bimodality rather than the actual height of the bars. The reason for this is that the histogram shows actual numbers of enclosures and not proportions and with the sample of 18 Settlement Units or 105 enclosures, clearly, by definition, the relative numbers of “large” and “small” enclosures should be 18:87. In physical number, therefore, the “small” enclosure should far outweigh the “large” enclosures. However, if there is any validity or absolute definition for the terms “large” and “small”, the bimodality of the histogram should coincide with the relative proportions of “large” and “small” on the basis of 18:87. A simple way of testing this coincidence is to work along from the “large” end of the histogram and count the 18 “large” enclosures and see if they form a distinct group (or mode)

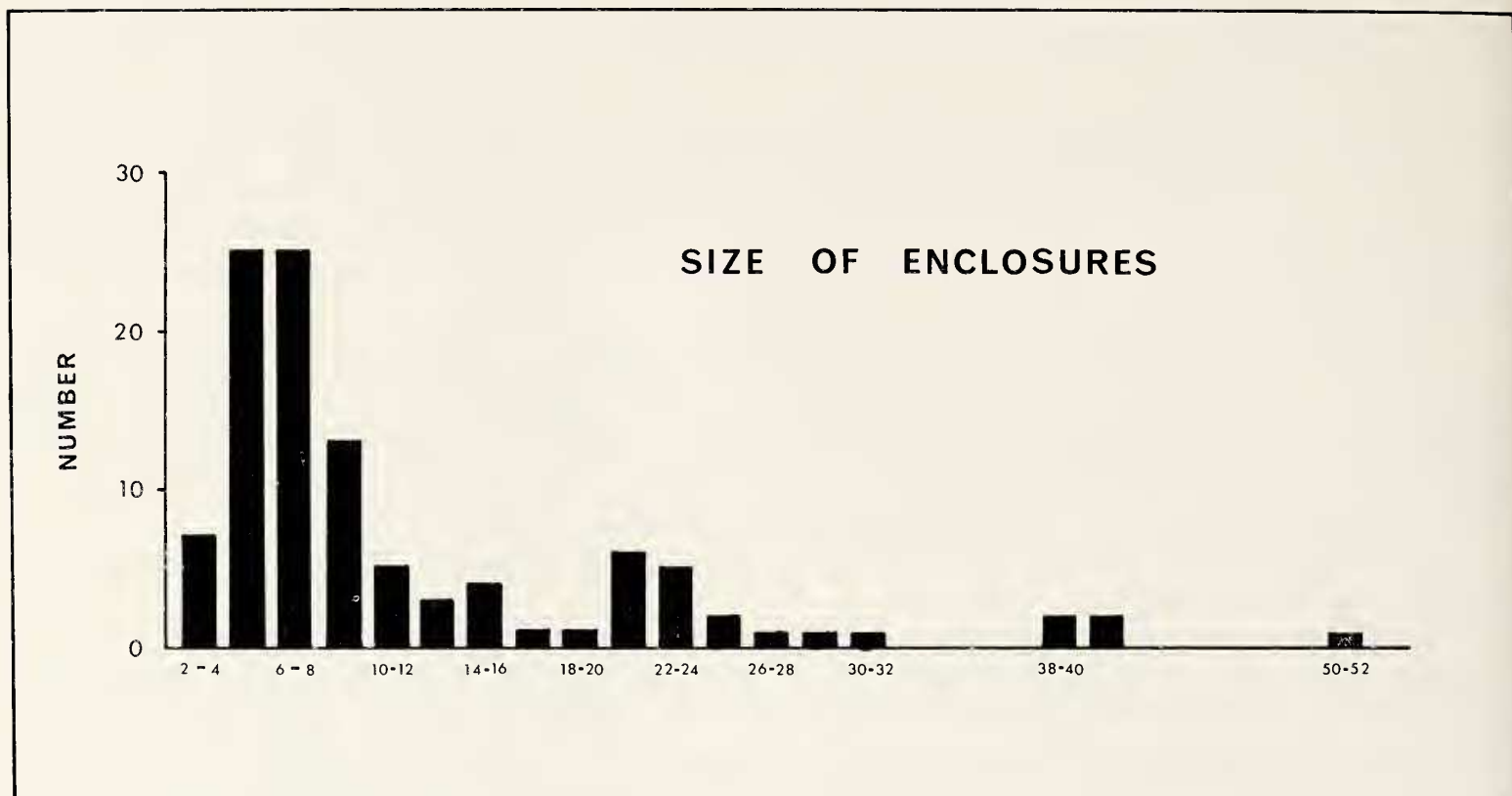


Fig. 5. Histogram showing the diameters of 105 enclosures.

on the histogram. When we do this, however, we find that working from the 1 enclosure in the 50—52 m group, the 18th large enclosure lies (theoretically) within the 20—22 m group which is almost the peak of the “large” mode. We must therefore conclude that there is no definite line between “large” and “small” enclosures and that the largest “small” enclosures may overlap with the smallest “large” enclosures. The terms “large” and “small” only have validity with reference to individual Settlement Units where the “large” enclosure can be isolated with reference to the relative sizes of all the enclosures; the terms are therefore relative and not absolute terms. They nevertheless do have some validity in defining the structure of individual Settlement Units.

EXCAVATIONS ON KHARTOUM 1 AND 2

The field study of the Settlement Units must, naturally, raise several questions. Perhaps the most important of these are, first, the nature of the cultural material associated with the Settlement Units and the extent to which it reflects the external environment either through exploitation or contact, and second, the possible functions of the various Structures.

A series of small scale excavations was carried out on Khartoum 1 and 2 in an effort to throw some light on these problems and to amplify the findings of Maggs (1971) on OFD 1. A complete and full answer can only really be expected through the total excavation of several Settlement Units, but such large scale investigations were beyond the scope of the project of which these excavations were a part. The results achieved in the small scale excavations do, nevertheless, throw some light on human activity on the Settlement Units.

KHARTOUM 1, STRUCTURE L, EXCAVATIONS 1-3

Structure L on Khartoum 1 is, as indicated, the large enclosure and a series of three excavations was carried out on the north-east side of the enclosure.

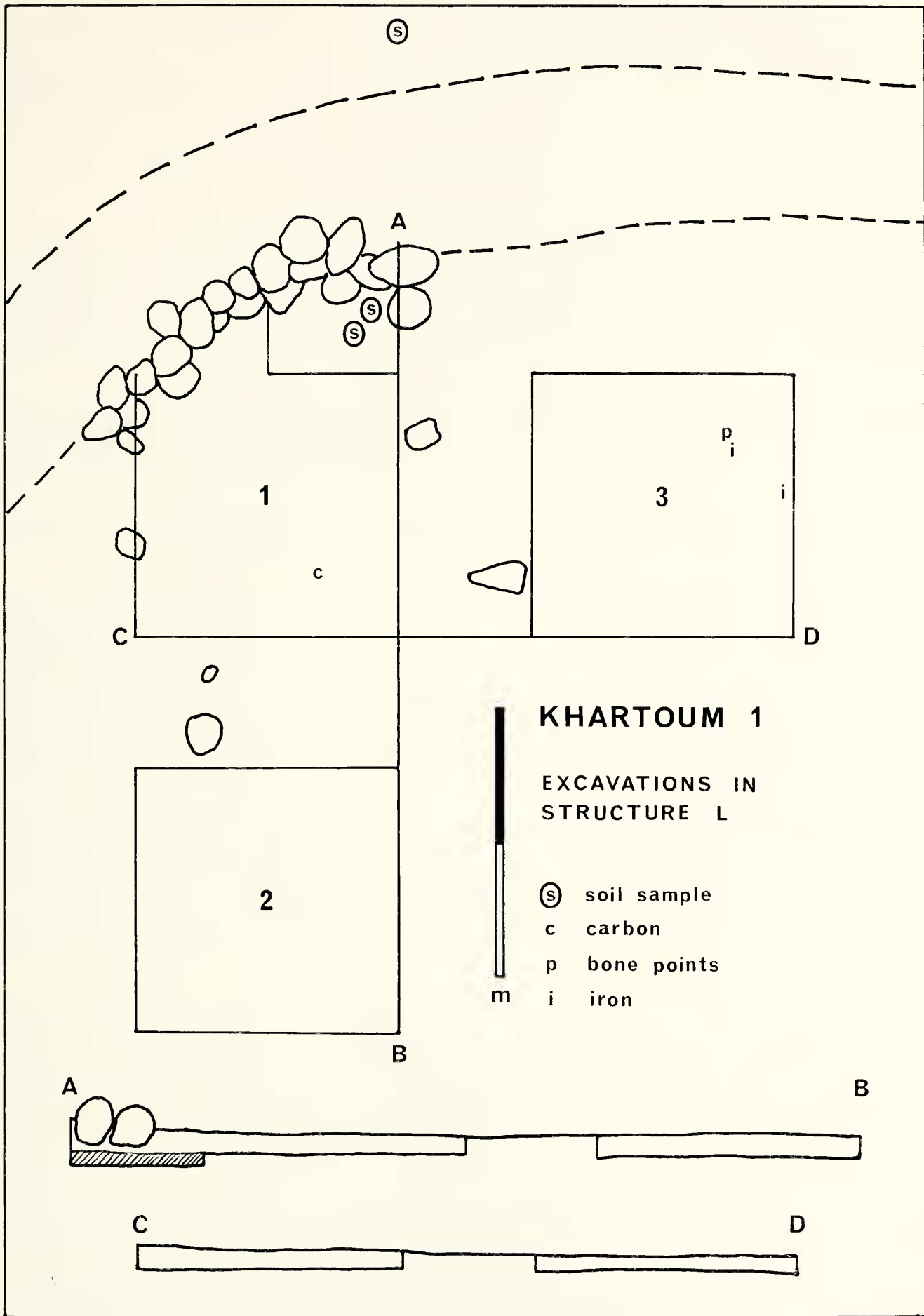


Fig. 6. Plans and sections of Excavations 1-3 carried out in Structure L on Khartoum 1.

The "platform" on which Khartoum 1 is situated is not absolutely level but slopes very slightly away from the high dolerite ridge down to the north-east. The result of this is that most of the deposit on the south-west (or higher) half of Structure L has been washed away and bedrock exposed. The north-east half, on the other hand, being on the down slope has a good accumulation of deposit which, upon inspection, was found to be banked up against the walling. It is for this reason that these excavations in Structure L were undertaken on the north-east side of the enclosure.

Excavations 1—3 consist of a series of 4 square metre trenches (Fig. 6). Excavation 1 was extended by about 1,5 square metres to expose the wall of Structure L.

Excavation 1 was laid out with the north corner abutting the wall; the east end of the grid was then extended to include about 2 m of the walling. Excavation was to proceed in 12 cm spits in the absence of any stratigraphic indications of changes in the deposit. At about 12—14 cm, however, a hard layer was encountered and it was decided to remove the first spit down to that level.

Prior to the commencement of excavation, the grid area was cleared of grass and a few fragments of ostrich egg-shell were recovered. The clearing of the grass disturbed the very surface of the deposit which proved to be loose red sand. As this surface sand was removed during excavation the soil became more compacted but was essentially similar to the surface deposit. The whole area to the level of the hard layer consisted of compacted red sand. Cultural and faunal remains were recovered over the whole area; ostrich egg-shell fragments were particularly numerous. The very hard nature of the deposit made the excavation of the relatively fragile faunal remains rather difficult.

As the deposit overlying the hard layer was removed, it became apparent that the hard layer may represent some type of floor. Several bone fragments were recovered from the surface of the hard layer and these seemed to have been crushed or pressed into the surface of the "floor"—the impression was of bones having been trampled into the hard surface.

The impression of the hard layer as being a floor was strengthened and, indeed, confirmed when the base of the wall was exposed. The wall was found to have been built onto the hard level. This hard level was therefore interpreted as the original floor or level on which Structure L was constructed.

In order to confirm this interpretation still further, a square metre adjacent to the wall was excavated to a depth of 10 cm into the floor. This hard layer proved to be very hard indeed and could only be broken loose with difficulty with geological picks. The deposit was very compacted and each little sod had to be crushed individually before sieving could take place. This deposit proved to be sterile. Soil samples were taken from the surface of the floor and from within the deposit below the floor level.

Apart from the cultural and faunal remains recovered throughout the deposit overlying the floor, tiny bits of charcoal were found in certain areas within the deposit. The charcoal was too diffused to suggest a hearth but a sample was nevertheless submitted for C14 dating.

Excavation 2 was located 1 m west of Excavation 1, and further into the enclosure. This excavation yielded a similar sequence to the first: the hard floor layer was located 12—14 cm below the surface. The deposit was equally hard and the same difficulty was experienced in excavating the fragile faunal remains.

Excavation 3 was placed 1 m south of Excavation 1 and was lined up with the west section of that excavation. In this case the excavation was not extended to expose the base of the wall. This excavation also produced a similar situation to Excavation 1.

In none of these excavations was actual bedrock exposed but judging by the level of the bedrock in nearby areas it could not have been more than a few cm below the level reached in the deepest part of Excavation 1, at the base of the wall.

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KHARTOUM 1, STRUCTURE L, EXCAVATION E

Excavation E was the exposure of the "possible entrance" referred to earlier. No cultural material was recovered.

KHARTOUM 1, STRUCTURE L, COLLECTION 1

A dense scatter of "Later Stone Age" artefacts was located in Structure L. It was decided to sample this occurrence and so a grid measuring some 8×10 m was laid out on the north side of the large enclosure (see Fig. 3 for precise location). All artefacts occurring within this area were systematically collected. Details of the analysis of these artefacts are given in Appendix 1, but it may be pointed out here that the sample collected seemed to represent two "phases". On the basis of *etat physique* it was possible to distinguish between a heavily weathered series and a completely fresh series. The weathered artefacts have not been analysed but a study of the fresh series suggested that they are related to the Phase 6 identified by Sampson (1970) on the Orange River.

KHARTOUM 1, STRUCTURE J, EXCAVATION 1

It was also decided to examine one of the small enclosures in some detail and Structure J was selected for this purpose. Structure J is one of the four enclosures located to the south of the large enclosure.

A base line (C-D on Fig. 7) was laid out cutting the Structure in half from NW to SE. The intention was to excavate half of the deposit occurring within the Structure. Initially the centre 2 m of the base line were taken as the western limit of the excavation and the area from that base line east to the wall of the Structure was marked out for excavation.

Excavation once again proceeded in 12 cm spits. The deposit was loose at the surface (from the clearing of grass) but became more compacted 3—4 cm below the surface. The deposit in this spit, and throughout the excavation, was reddish brown sand with no significant changes in colour or texture, excepting for the looser surface material.

The bottom of the second spit revealed the base of the wall. There was, however, no change in texture in the deposit which might have suggested the existence of a floor similar to that located in Structure L. In view of this, and despite having located the base of the wall, it was decided to continue the excavation to bedrock.

Bedrock was located 30—35 cm below ground surface. It was composed of a flattish floor of weathered crumbly dolerite. The section along the wall clearly showed that the wall had been built on a level about 8—10 cm above bedrock, suggesting that at the time of construction the immediate area had consisted of a flat surface produced by the dolerite "platform" overlain by a thin covering of surface soil. Whatever activities were carried out within the Structure, they were not such as to have produced the same consolidation of the surface soil seen in Structure L, nor did they result in the distribution of any recognisable remains on that surface.

The excavation was sterile except for two isolated potsherds. Both sherds occurred within spit 2 (12—24 cm below the surface) but could well have been derived as they did not come from precisely the same level and were not found at the same level as the base of the wall.

In view of the sterility of this excavation it was decided not to extend excavations to remove half of the deposit in Structure J as was originally planned.

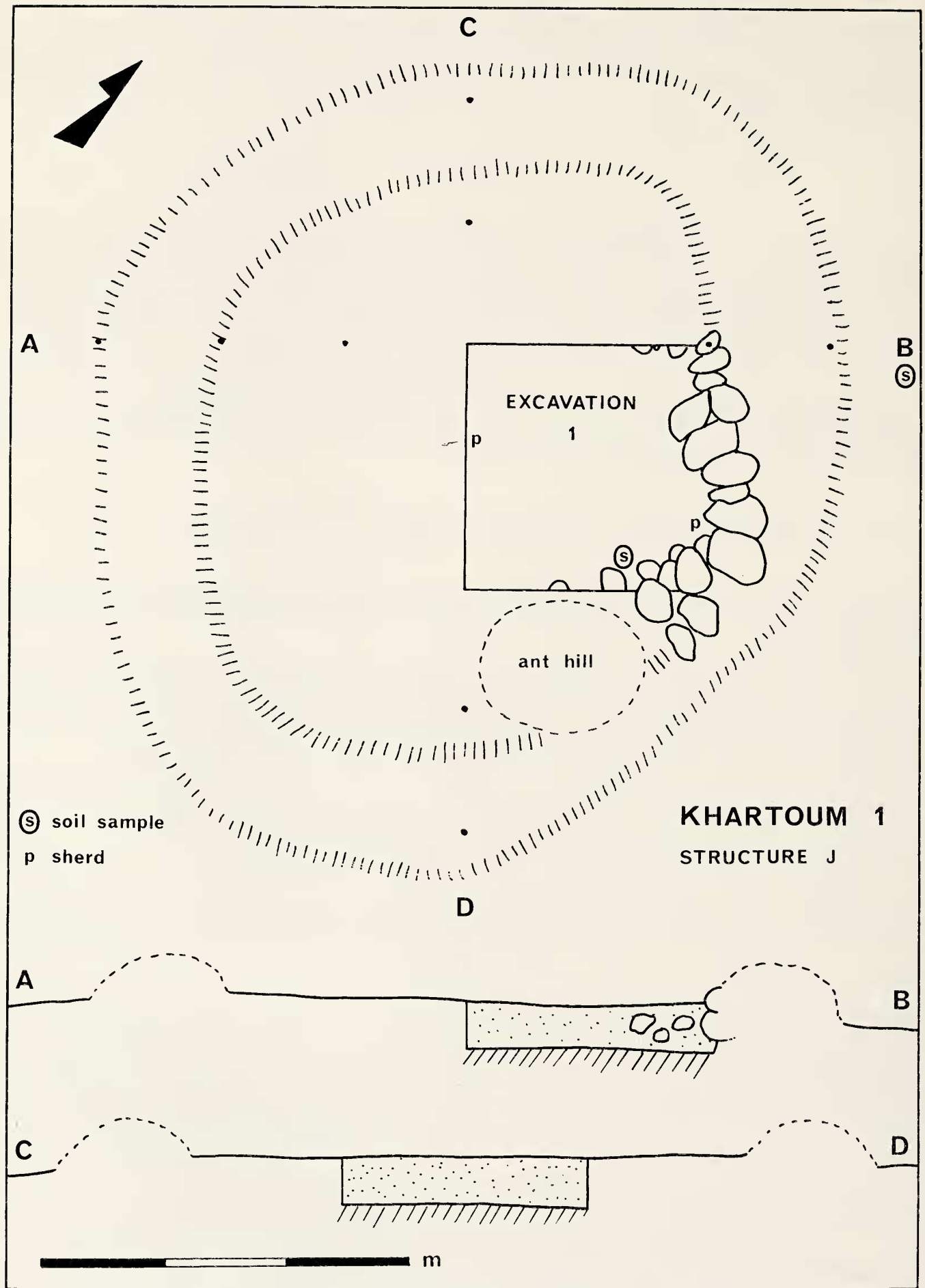


Fig. 7. Plan of Structure J on Khartoum 1 showing position of excavation.

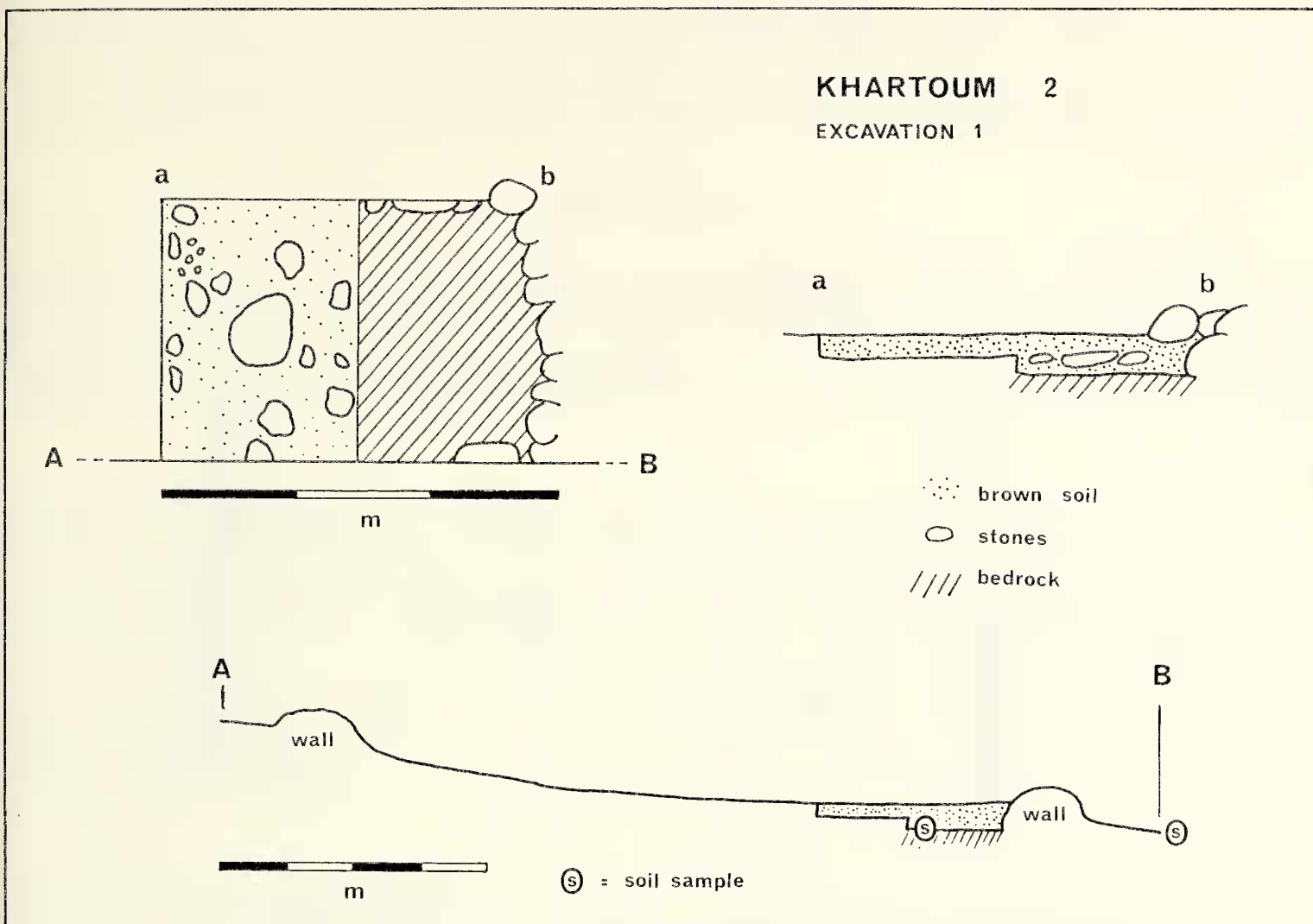


Fig. 8. Plan and section of Excavation 1 in Structure A on Khartoum 2.

KHARTOUM 2, STRUCTURE A, EXCAVATION 1

Following the results of the investigations of the small enclosure Structure J on Khartoum 1, it was decided to excavate one of the small enclosures on Khartoum 2. Structure A was selected for investigation. This Structure is located close to the base of the dolerite ridge, and on a slight slope, so that there had been deposition in the enclosure up against the lower wall rather than erosion which is such a feature of Type R Settlement Units.

An area of 6 square metres was marked off on the down-slope side of the Structure (see Fig. 4 for the precise position of the excavation and Fig. 8 for detail). The excavation proceeded in 15 cm spits. The first spit was removed from the entire area and proved to be completely sterile. The deposit consisted of a brownish soil which, apart from the top few cm which were loose, was compacted but not as hard as the deposit in Structure L of Khartoum 1.

A second 15 cm spit was excavated from the 1.5 m area nearest to the wall and at the base of this spit bedrock was exposed. The bedrock was very friable shale which flaked away as it was brushed. The base of the wall was also exposed in this spit and it was clear that the wall had been built on a surface only 3—4 cm above bedrock. In view of the slope on which the Structure had been built, this was not a surprising discovery because prior to the construction of the wall (which held back about 30 cm of deposit) the surface soil could not have been very thick on account of the rain water run-off down the slope which would have washed most of it away.

The second spit was also sterile and in view of the fact that any materials which may have been in the enclosure would almost certainly have been accumulated within the 30 cm of deposit down-slope banked against the wall, it was decided not to proceed any further with the excavation. The upper half of the excavation was therefore not taken any lower than the first spit level.

THE FINDS

The Khartoum 1 finds to be described here were all derived either from the excavations in Structure L or from surface collecting; the excavation in Structure J produced only 2 body sherds while the excavation in Khartoum 2, Structure A, was sterile. The sample of finds from Khartoum 1 is small but interesting and can be complimented by consideration of surface finds from several other Settlement Units as well as from the excavations undertaken by Maggs (1971) at OFD 1.

1. POTTERY

Form. The excavations in Structure L only produced some 78 sherds of which 10 were rim sherds; despite much time spent, it was not possible to reconstruct any pots to the extent of being able to define shape and size although several of the rim pieces fitted together (Fig. 9). Several other Settlement Units have, however, provided evidence on the shapes and sizes of pots, among these being those on the farm Pramberg only 5 km to the north of Khartoum. The pottery from these other Settlement Units is illustrated in Figs. 10—13.

The evidence available is somewhat fragmentary and so a detailed analysis of shapes and sizes is not possible; one pot and two bowls can, however be reconstructed sufficiently for the shape and size to be defined in detail. The pot is a large specimen with a rim diameter of 26 cm and a height of 22 cm (Fig. 11). The bowls are from Pramberg and Mierkraal and measure 23 cm × 13 cm and 17 cm × 9 cm respectively (Fig. 10 and 13).

Some 12 other pots can be reconstructed enough for estimates to be made of their rim diameters. These pots have, for convenience, been divided into 2 classes: "Pots" and "bowls",—on the basis of the fragmentary evidence available a more detailed breakdown does not seem justified. "Pots" are those vessels that have the sides curving inwards, i.e. the rim diameter is less than the maximum diameter of the pot. "Bowls", on the other hand, are those vessels which have the rim diameter as their maximum dimension; the sides can vary from almost vertical to very widely flared.

Of the total 15 vessels than can have their rim diameters reconstructed, only 4 can be rated as "bowls". These "bowls" range in rim diameter from 16 to 24 cm while the "pots" have a much wider range from 13 to 36 cm. The sample of vessels is too small for any definite conclusion to be drawn, but "pots" seem to outnumber "bowls" by almost 4:1—"bowls" were also relatively rare in Maggs' (1971) analysis.

Several bases of pots could be reconstructed and all of these were rounded; there is no evidence to suggest that any of these bases were flattened or pointed.

Rims. The rim fragments available for study consist of 10 excavated from Structure L and some 33 from other assemblages; clearly a sample too small for detailed analysis. Maggs (1971: 52), on the basis of his large OFD 1 sample, has suggested that rims tend generally to be rounded, with a few flattened on their upper surfaces. He also refers to some that are "rolled over but not to the extent of being significantly thickened". Of the OFD 1 sample about 1 in 6 rims were found to be accentuated by a projecting step or ridge a few mm below the lip and Maggs suggested that this may be a distinctive feature of the Type R pottery. The sample collected in the course of this project exhibits most of the rim features described by Maggs but the occurrence of accentuated rims is not such as would be expected if this were a "distinctive feature" of the pottery.

KHARTOUM 1

STRUCTURE L EXCAVATIONS

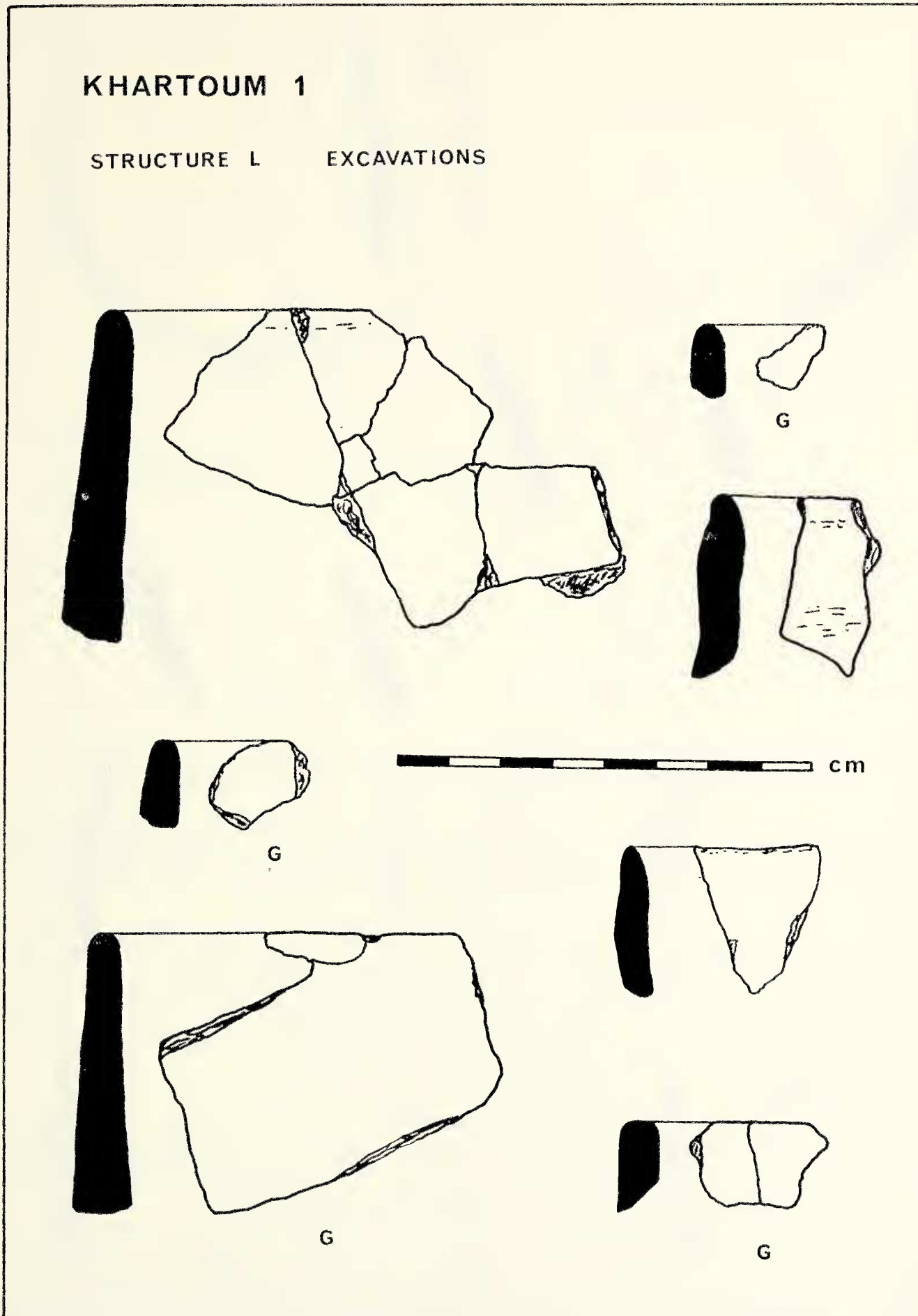


Fig. 9. Rim sherds recovered from Excavations 1-3 in Structure L on Khartoum 1.

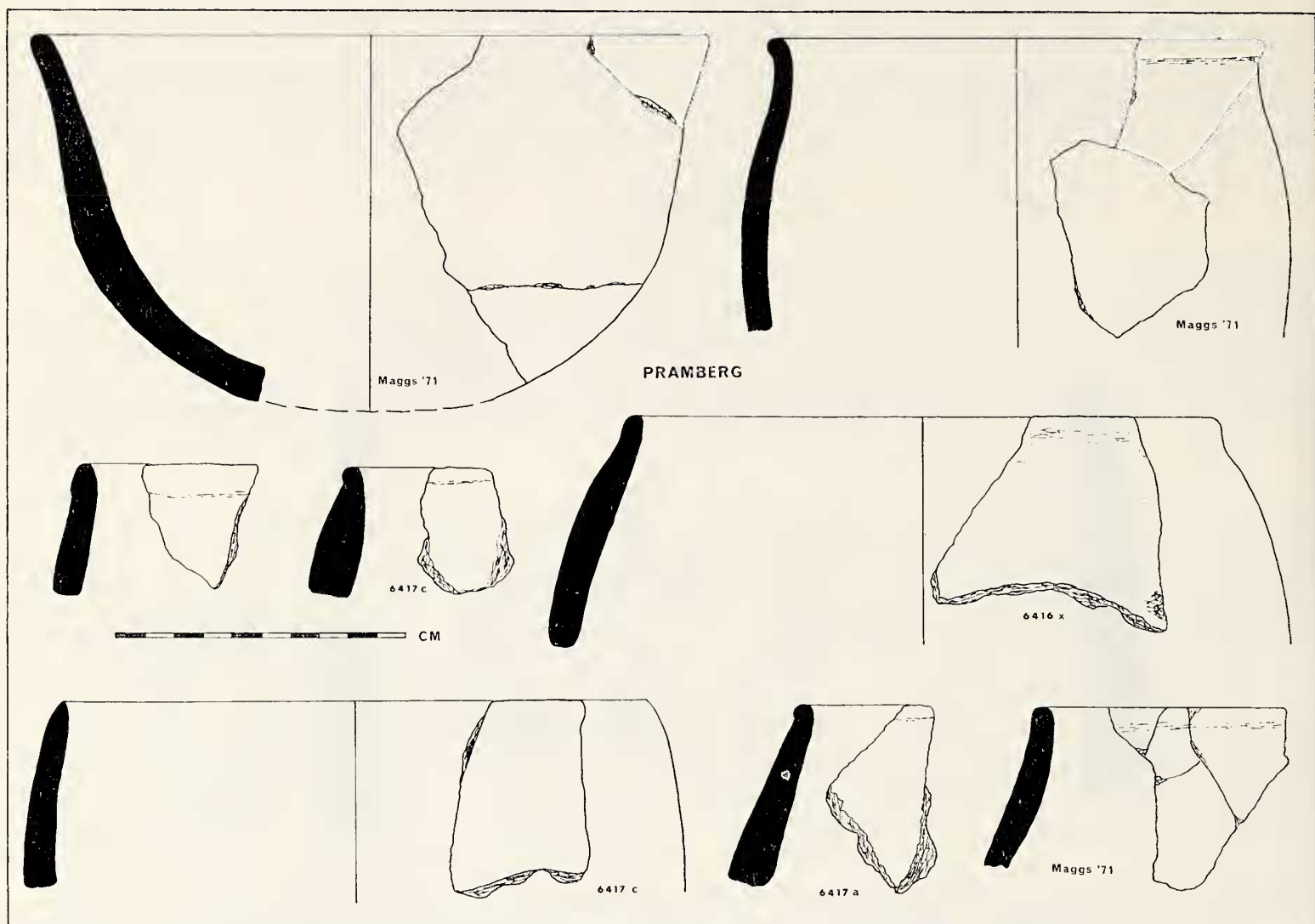


Fig. 10. Rim sherds recovered from Settlement Units on Pramberg, north of Khartoum.

Many of the rim sherds recovered show an unevenness in finish which is noticeable even on these small fragments and this may be evidence that rims were not made to a distinctive or consistent shape; even and well made rim sherds constitute a very small proportion of the total sample.

Decoration. Of the several hundred sherds collected from Settlement Units, only 3 were found to have been decorated and none of these were from Khartoum 1. This lack of decoration is accentuated even more when we consider Maggs' sample of 991 from OFD 1 alone which produced only another 4 decorated sherds. As Maggs (1971: 52) has pointed out, this lack of decoration is something of a diagnostic feature in itself for most Iron Age and even "Later Stone Age" pottery is decorated in a distinctive way.

Maggs described the decorated sherds from OFD 1 as follows:

"One has a herringbone motif in shallow grooves on a rounded rim, the others have one or more rows of small triangular or 'D'-shaped impressions. The impressions seem to have been made by a comb rather than a stylus, but they differ from the normal comb-stamping of the Orange Free State, which shows square or rectangular impressions."

In this project decorated sherds were recovered from Weltevreden 1 (Fig. 11) and the Poortjie Settlement Locale (Fig. 12). One of the Weltevreden specimens is a rim sherd. The decoration consists of triangular comb-stamping running diagonally just below the rim; below this is a horizontal line followed by a blank area 1 cm across, with the same pattern repeated in reverse below. The second Weltevreden sherd again shows diagonal comb-stamp-

HUMPHREYS: EXCAVATIONS CARRIED OUT ON A TYPE R SETTLEMENT UNIT

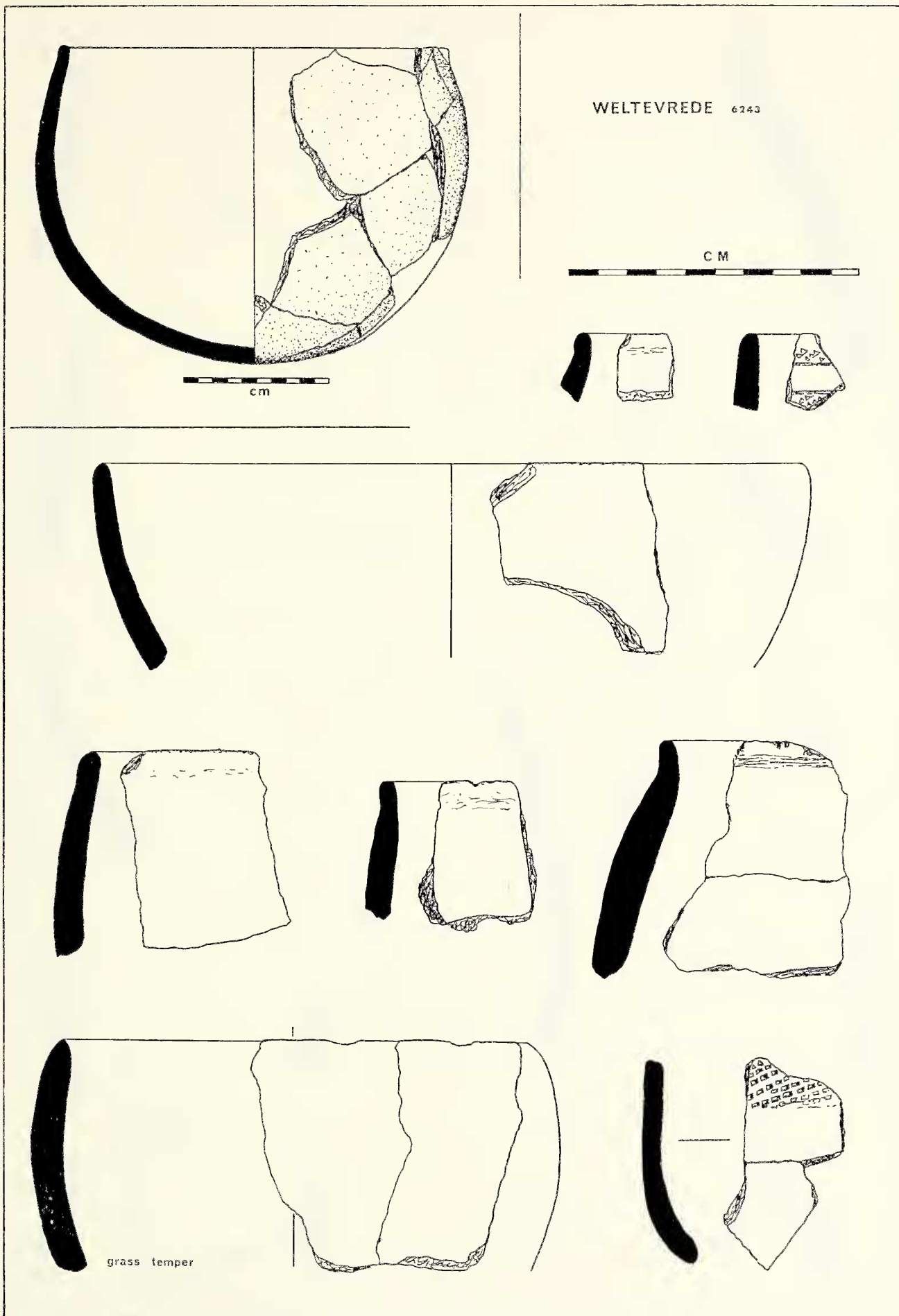


Fig. 11. Pot, rim sherds and decorated sherds from Weltevreden 1, near Plooyburg.

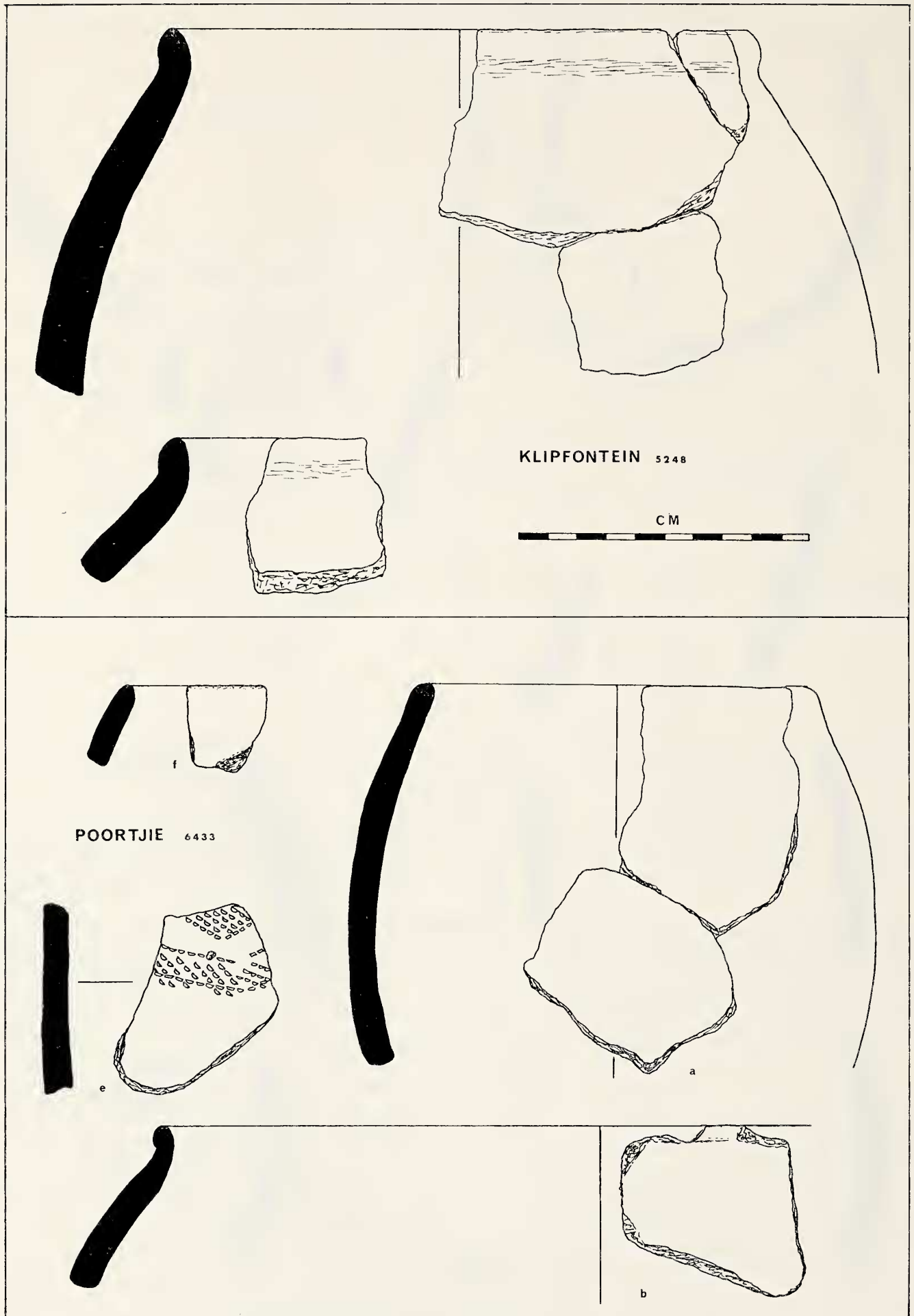


Fig. 12. Pottery from Klipfontein and Poortjie.

HUMPHREYS: EXCAVATIONS CARRIED OUT ON A TYPE R SETTLEMENT UNIT

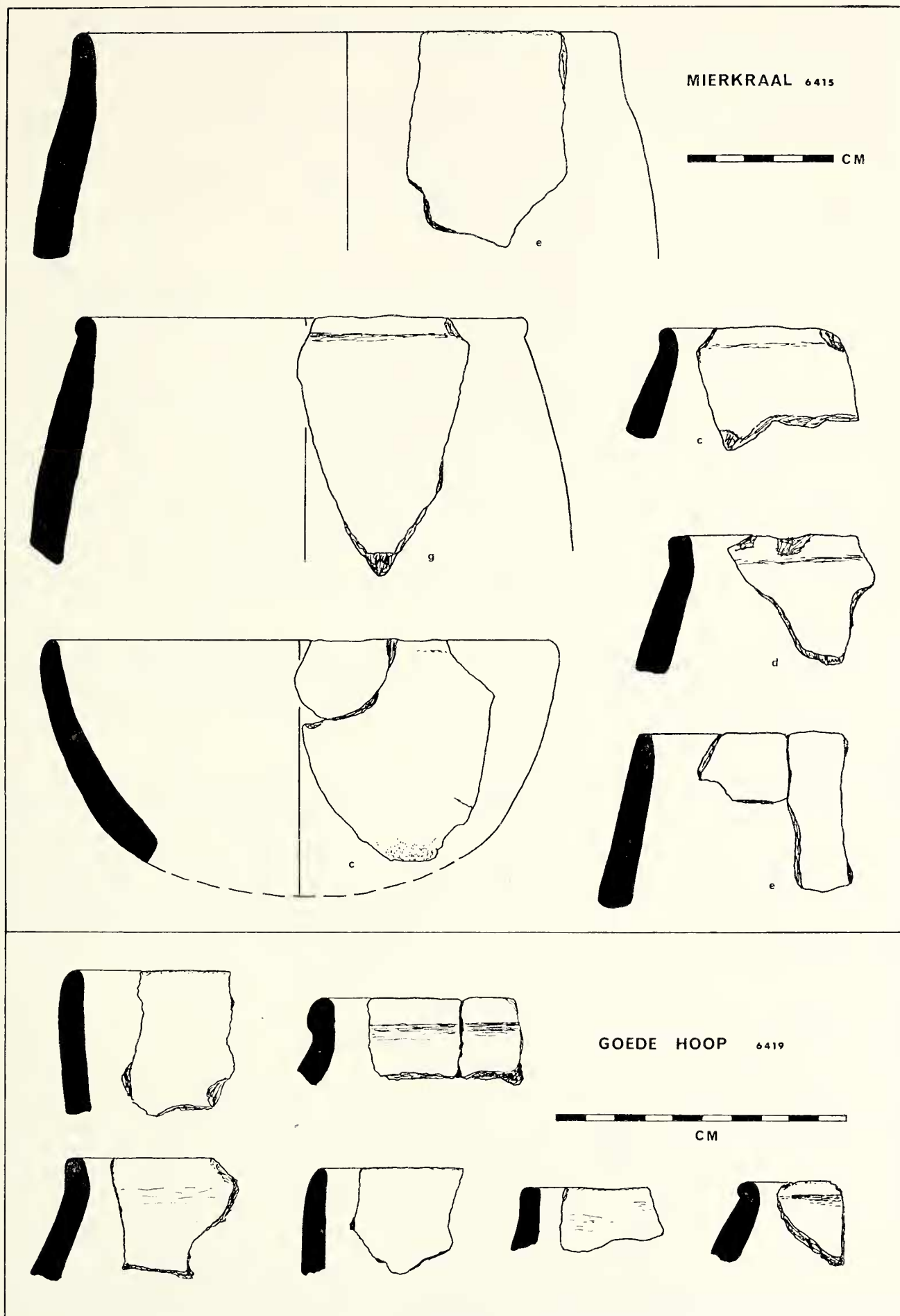


Fig. 13. Pottery from Mierkraal 1 and Goede Hoop 1.

ng, but this time the impressions are rectangular in shape. The specimen from Poortjie is also comb-stamped but in this case the impressions are "D"-shaped. The sherd is too small to tell, but the impression is that the comb-stamping itself may have followed a zig-zag pattern. The non-stamped areas of the sherd seem to have a red ochre burnish but it is very indistinct.

It is not clear whether or not these decorated sherds are intrusive in the assemblages but the character of the pottery, apart from the decoration, is not noticeably distinct from all the other Type R pottery. The fact that Maggs recovered triangular or "D"-shaped comb-stamped pottery from his excavations would seem to suggest that rare decorated pottery is in true association with Type R pottery assemblages.

Temper. Maggs (1971: 52) has shown that the tempering of Type R pottery consists mainly of grit and has suggested that the rare grass tempered sherds which he found belonged to the "Later Stone Age". All the pottery collected from Settlement Units by the writer had similar grit tempering (excepting for two sherds from Weltevreden 1—see Fig. 11). The excavations in Khartoum 1, Structure L, however revealed a large number of grass tempered sherds (42 out of 78). Apart from the grass tempering there was little to distinguish the two groups of pottery and there was no significant difference in thickness distributions. The two groups are regarded as being associated on the basis of observations made during excavations and have therefore been combined as one sample of pottery from Khartoum 1. It must be concluded that grass tempered pottery cannot automatically be dismissed as "Later Stone Age". The Type R people may well have made or obtained and used some grass tempered pottery.

The colour of the pottery is predominantly buff, varying to a reddish brown or grey. Some sherds (including some from Khartoum 1) seem to have been blackened on the outside by fire.

A characteristic of the Type R pottery seems to be its thickness. The thickness distribution and the mean thickness for 5 samples are shown in Fig. 14. The mean thickness ranges from 9,7 mm to 13,3 mm. The thickness distribution of Type R pottery contrasts in remarkable fashion with that of 6 samples of "Later Stone Age" Phase 6 pottery from the Orange River (Fig. 14) where the mean thickness is about 7 mm.

Maggs (1971: 52) has already drawn attention to the fact that Type R pottery is distinct from any other known from this area. This fact can be reiterated here; the Type R pottery is clearly distinct from the highly decorated "Later Stone Age" pottery described by Sampson (1967 b)—similar sherds have been found near OFD 1 (Maggs 1971: 53) and on Khartoum 1 (unillustrated). Orange Free State Iron Age pottery is distinct from the Type R material (Maggs 1971: 53) and so is pottery today associated with the Tswana and Sotho peoples (Lawton 1967). The Type R pottery seems to be as distinct as the other cultural features and Structures with which it is associated.

2. METAL WORK

A total of 3 metal objects was recovered from Khartoum 1, all were found in Structure L, Excavation 3 (see Fig. 6 for the precise locations).

The largest and most spectacular piece can best be described as a "spear-head" (Fig. 15 No. 1). The spear-head is 144 mm in length. The front two-thirds of the spear is round in notices but the rear end is square, tapering to a point at the very end. The mid-point of the square section is 5,0 mm. The spear-head is very heavily corroded but the shape and size can still be clearly distinguished. According to Maggs (pers. comm.) similar specimens, but with a flat blade-like point, have been recovered from Iron Age sites to the north. He also remarks, "If the end is not broken off then I suppose it could be a rod-like spear-head without a blade, but this type seems rarer in the ethnographic record." The end of the spear-head is rounded off and, despite the corrosion, seems to be undamaged. The specimen must therefore be complete and represent a round rod-like spear-head.

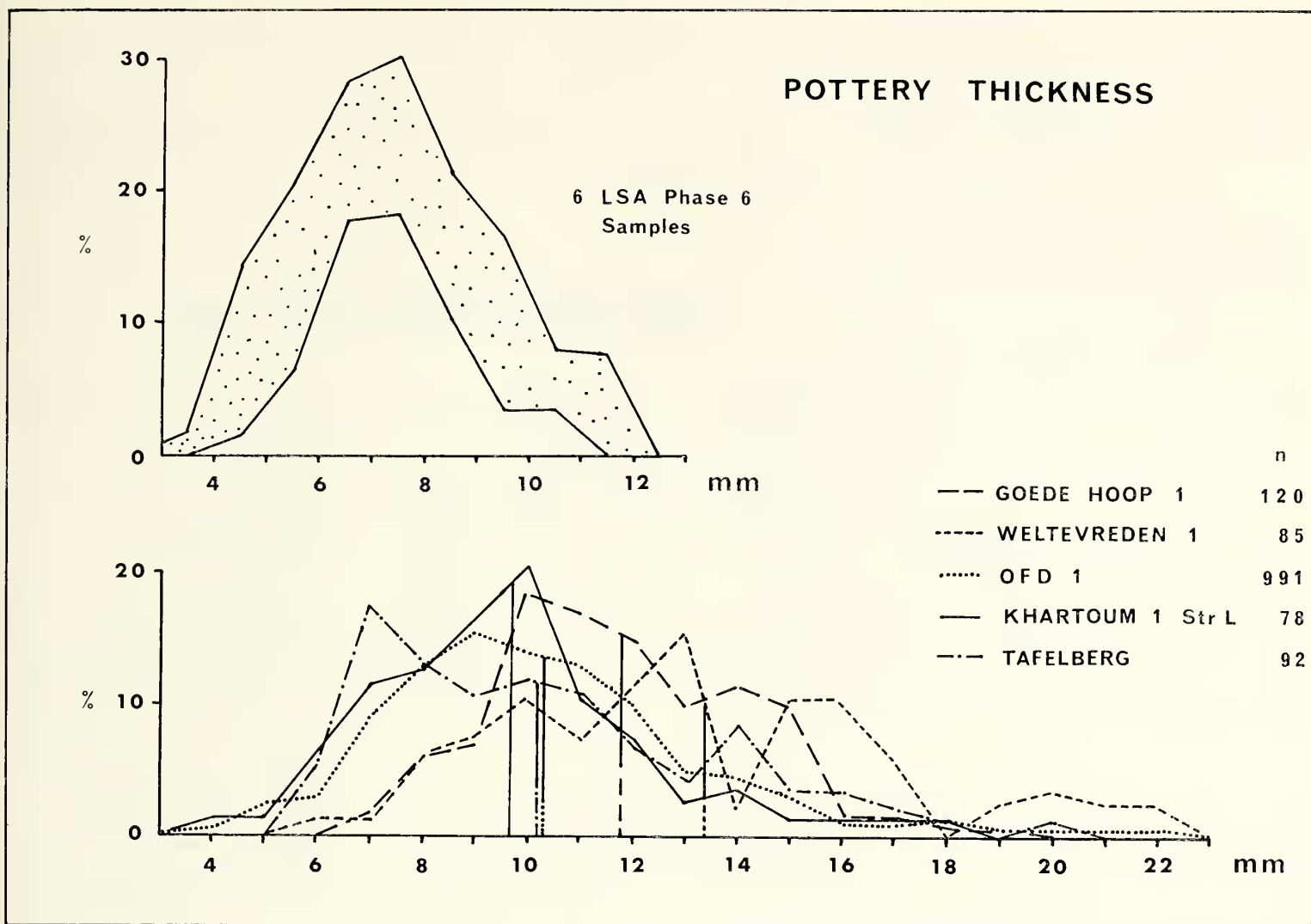


Fig. 14. Graphs showing the relative thicknesses of 5 Type R pottery samples and 6 "Later Stone Age" Phase 6 samples from the middle Orange River.

The second metal object is a thin rod-like fragment (Fig. 15, No. 2). It is 31 mm long and 3,5 mm thick at the mid-point. Not much can be said about it other than mentioning the possibility of it being part of the tang of a spear- or arrow-head.

The third specimen is a flat piece of metal (Fig. 15, No. 3). It is 36 mm long by 16 mm wide and 3,5 mm thick. The edges are more or less parallel; in cross-section one face is flat while the other has a ridge in the middle. This fragment may well be part of a knife or spear blade, in view of the central ridge. Iron work is as yet unknown at any of the other Settlement Units (except for "a small, shapeless piece of highly corroded iron" which "could well be of modern origin" from OFD 1—Maggs 1971: 55), but three copper objects were recovered in an excavation while a bangle and part of a band were found on the surface.

The rarity of any kind of metal objects on Type R Settlement Units would suggest that they were not common artefacts to the people concerned and that they may have been obtained from other groups—probably Iron Age peoples to the north.

3. BONE OBJECTS

Three formal bone artefacts were obtained from Khartoum 1. These consist of three bone point fragments (Fig. 15, No. 4). The largest of these is perhaps the most interesting; it is 37 mm in length and its maximum thickness (at the base) is 7 mm. It has been well rounded and smoothed but "facets" created during shaping are clearly visible in the right light. About

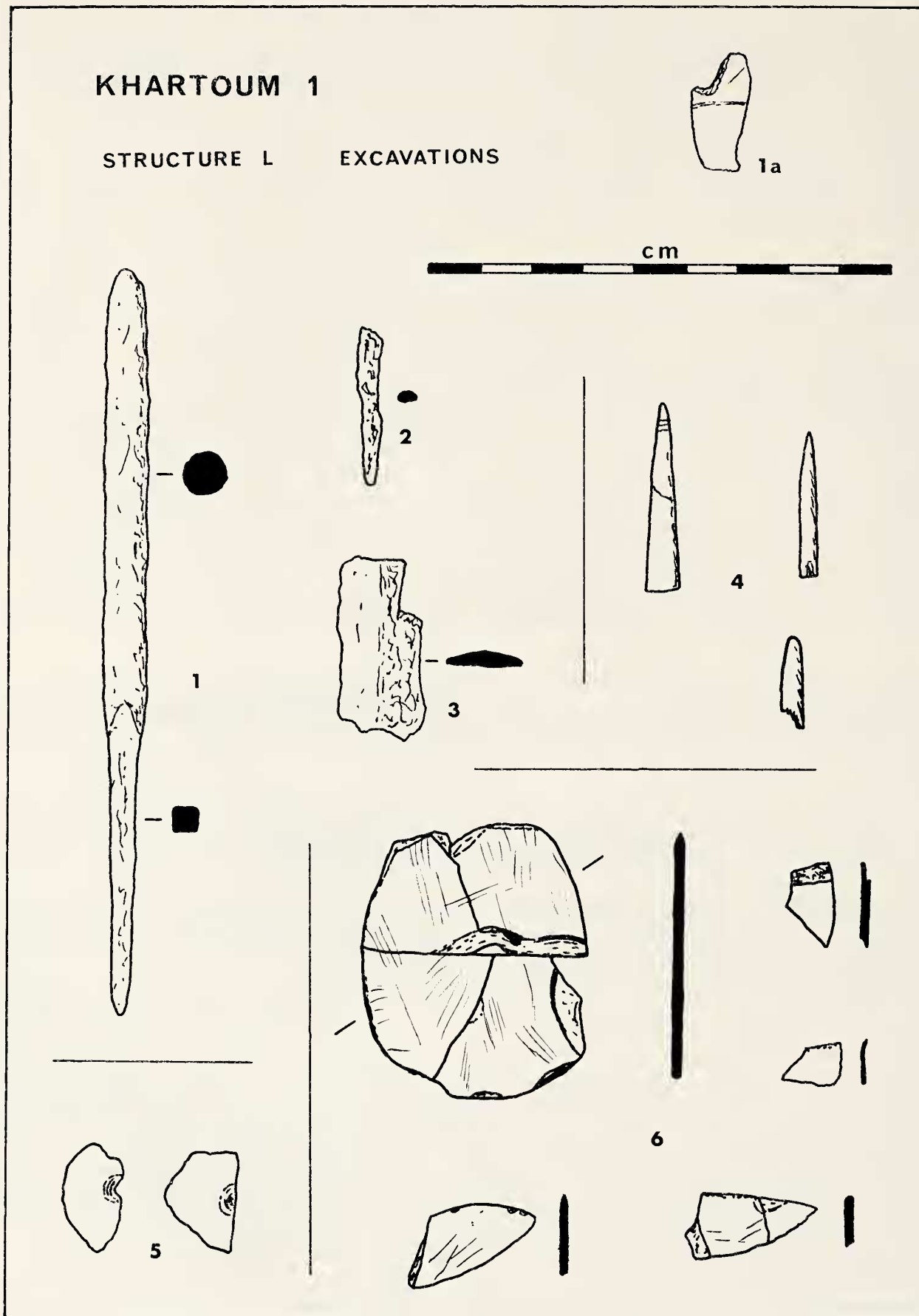


Fig. 15. Small finds from Excavations 1-3 in Structure L on Khartoum 1.
 1a. Bone fragment with incised line; 1. Iron spear-head; 2. Iron fragment; 3. Iron fragment—possibly part of the blade of a knife or spear; 4. Three bone points; 5. Two fragments of bored ostrich egg-shell; 6. Striated shale slab reconstructed from four joining fragments and four other fragments.

4 mm above the tip of the point is an incised spiral line which circles the point three times. The incision is not very deep, but is clearly visible on the otherwise smooth surface of the point. The spiral seems to have been deliberately applied rather than being due to wear from some "drilling" activity. It is not clear if the point is complete or not; the base is flat and at right angles to the length of the point and although showing no tooling, does not appear to have been broken naturally, or subsequently to its incorporation in the deposit.

The second and third points, on the other hand, both seem to be fragments of longer points. The second specimen is 28 mm in length and 4 mm in maximum thickness. The "facets" created during manufacture are more pronounced on this specimen than on the first and several show striations from grinding or rubbing. There is no sign of any decoration.

The third point is clearly only the tip of a much longer artefact; the break at the base is jagged and runs more or less diagonally across the specimen. The fragment is 17,5 mm long and 4,5 mm in thickness. It has been carefully smoothed but some tooling marks are visible.

It is not possible to say if these objects were worked with stone or iron tools, but an object with a very sharp edge was clearly needed to cut the spiral into the largest specimen.

A fourth bone object was also recovered. This consists of a fragment of bone some 23 mm in length with a very fine incision or rather series of incisions running at right angles to the length (Fig. 15, No. 1a). The incision appears as a relatively wide cut, but closer examination shows that this cut has been created by a series of very fine incisions all made in more or less the same place. The blade of the cutting instrument was clearly very sharp indeed—it is doubtful if the incisions could have been made with a stone artefact. In view of the fact that the fragment recovered is only a small portion of the original bone it is not possible to guess at the purpose of the incisions.

Maggs (1971: 55) reported the discovery at OFD 1, of a natural bone splinter which had become polished at the tip through use. Nothing comparable has been found at Khartoum 1 but one of the functions of the bone points may have been to do the job done by the natural bone splinter.

4. OSTRICH EGG-SHELL

A large number of ostrich egg-shell fragments was recovered from Khartoum 1 Structure L—the excavations yielded 1 068 fragments ranging in size from about 40 mm to 4 mm in length. It is not clear why there should be this large concentration of ostrich egg-shell fragments in Structure L (when none of the other excavations produced any) and although one of the activities would undoubtedly have been bead-making, only one complete bead and three broken fragments of semi-bored pieces of shell were recovered (Fig. 15, No. 5). One possible explanation for the ostrich egg-shells is that they represent smashed ostrich egg-shell containers. The fragments from Structure L are generally rather small but the writer recovered several large fragments of ostrich egg-shell which were eroding out from the base of the wall of the large enclosure on the Settlement Unit designated Waterval West 3 (Humphreys 1972). None of the pieces appeared to preserve traces of the container hole but they seemed to be too large to be simple raw material for the manufacture of beads (unless, of course, the ultimate purpose had been to fragment them still further). However, the idea of ostrich egg-shell containers is strengthened when we consider the decorated fragments found by Maggs (1971: 55) on OFD 1, which he considered to be from ostrich egg-shell containers.

Maggs (1971: 55) recovered only four ostrich egg-shell beads from OFD 1, although he found many more fragments of ostrich egg-shell (82 from Trench 3 alone).

There is little reason to doubt that ostrich egg-shell beads were made and used by the inhabitants of the Type R Settlement Units.

5. STONE WORK

Fragments of only one stone object (apart from "Later Stone Age" artefacts) were recovered from the excavations at Khartoum 1; several other objects of considerable interest were, however, found on the surface of both Khartoum 1 and other Settlement Units.

The excavated fragments consist of 8 flat pieces of shale; four of these can be joined together (Fig. 15, No. 6). The four fragments together form a more or less oval shale slab some 55×53 mm and 3 mm thick; the thickness is very uniform giving the impression that it may have been worked to this thickness. This impression is strengthened by the existence of literally hundreds of fine striations which run in all directions over both surfaces of the slab. All edges of the slab appear to have been snapped off, with the exception of the north-east edge in the sketch, which has been carefully ground down from both sides to form a sharp edge. On the basis of thickness and the existence of the striations, the other four separate fragments all seem to belong to the original object of which the large reconstructed piece may be the major portion; one of the separate fragments has a sharpened edge exactly similar to that on the main piece. If the four separate fragments are considered, as well as the fact that they cannot be joined directly to the main piece and that therefore several more pieces must be missing, then the original size of the shale slab must have been at least twice that of the reconstructed piece.

Maggs (1971: Plate VIIB) also recovered a striated shale slab from OFD 1 but this specimen was about twice the size of the reconstructed piece from Khartoum, and about 10 mm thick; the shape and edges were irregular with no signs of modification or rounding (Maggs, pers. comm.).

It is not clear what the purpose of either of these slabs was.

A large shale slab was recovered from the surface of Khartoum 1, Structure L. This slab which has finely incised lines with cross hatching worked in a localised area on it has been described in detail elsewhere (Humphreys and Humphreys, in press). It is not clear what the cultural associations of this object are but in view of the very fine incisions it is possibly more likely to have been made by people with access to sharp metal tools than by pure stone users. The slab itself is 168×157 mm and about 25 mm in average thickness; it has two more or less flat surfaces and the edges have been weathered round. In addition to the incised lines, it shows pitting in the centre of one face suggesting use as some type of delicate "anvil".

A second surface find in Structure L was a beautifully made stone pipe which was recovered in four joining fragments (Fig. 16, No. 1). The length of the pipe is 58 mm and its maximum diameter 44 mm; the diameter of the top of the hole is 26 mm and the bottom 15 mm while the narrow "waist" about three-quarter way down is ± 6 mm. The pipe is perfectly symmetrical except for one side which is flat and unpolished; the impression is that the stone from which it was made was just too small on that side for the pipe to be completely round. The rounded areas were carefully polished to a very smooth finish. The pipe is quite unlike anything described by Walton (1953), but is similar in shape to several described by Baard (1967), notably some from the Bloemfontein and Bethlehem areas.

A fragment of what appears to be a second pipe was found on the surface just north-east of Structure C on Khartoum 1 (Fig. 16, No. 2). It is, however, much larger than the first, being about 53 mm in diameter (on the basis of the top which is the only part surviving) while the hole is 16 mm in diameter. The specimen could be part of a bored stone rather than a pipe but the hole runs straight through the stone rather than presenting an hour glass shape which is so common in many bored stones. The outer sides of the "pipe" are also straight suggesting that it was elongated rather than round in cross-section.

A curious cylindrical stone was also found on the surface in Structure L (Fig. 16, No. 3). It is 61 mm long and 28 mm in diameter. It is almost perfectly round in section; one end has been snapped off but was later battered in some places while the other end has been rounded

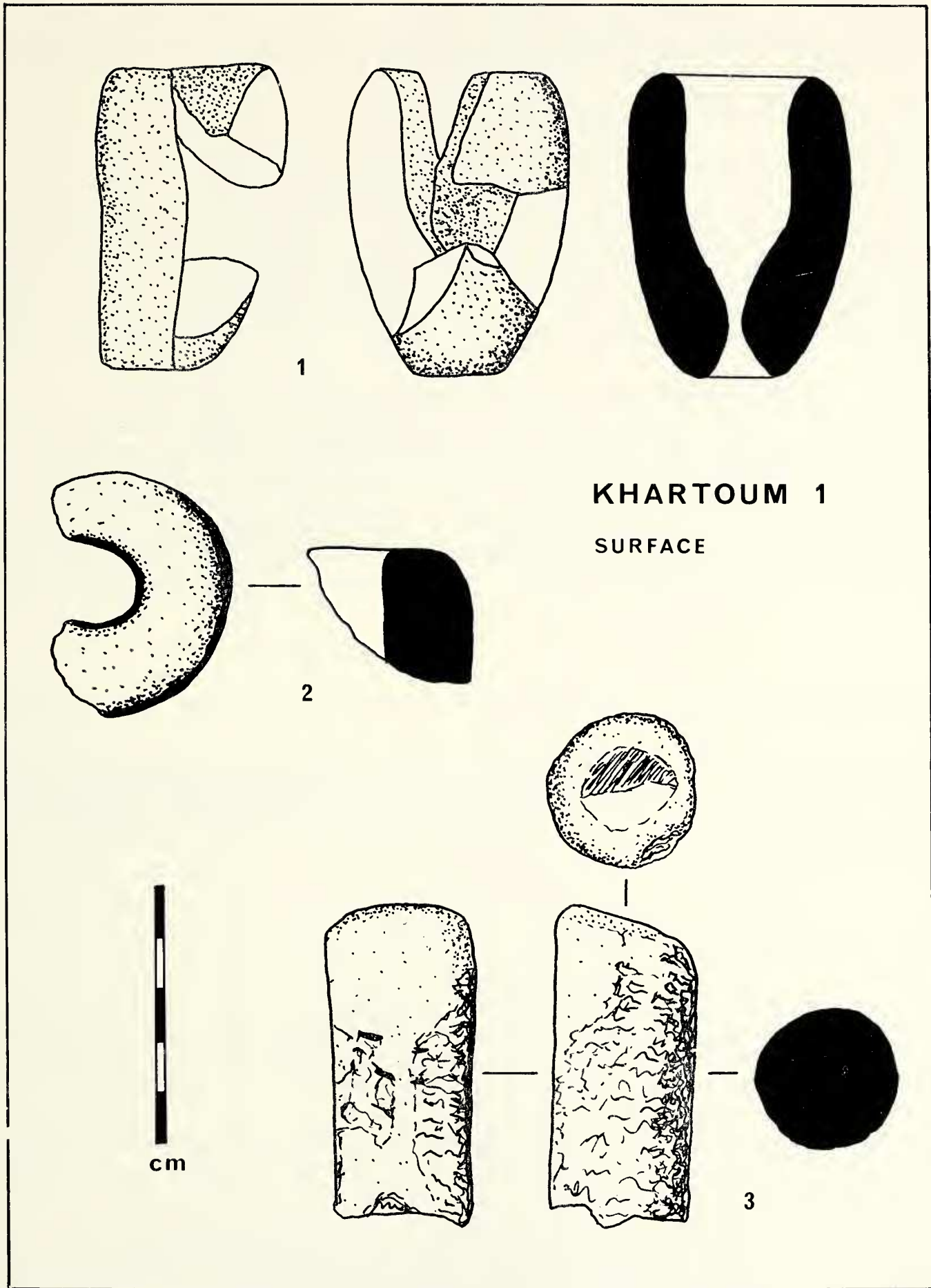


Fig. 16. Surface finds from Khartoum 1: 1. Stone pipe; 2. Portion of stone pipe; 3. Cylindrical stone.

off, although it is not symmetrical. The sides seem to have been ground smooth but it was later hammered over most of the outer surface with the result that there is rough pitting over most of the surface. No explanation for this object can be advanced.

Upper and lower grindstones abound on Khartoum 1 and all the other Settlement Units studied. No attempt has been made to accumulate detailed data on the occurrence of grindstones but the distribution of lower grindstones on Khartoum 1 has been plotted on the ground plan (Fig. 3). Upper grindstones range from single faceted to multi-faceted specimens; most lower grindstones have only one working surface and few of these have been ground to any great depth, the grinding surface appears as a slightly polished indentation. A notable feature on the lower grindstones is the great proportion of them that is broken. It would be difficult to say which grindstones were used by the inhabitants of the Settlement Units and which by "Later Stone Age" peoples, but the number and occurrence of grindstones on Settlement Units suggests that at least some of them were used by the Type R inhabitants.

The excavations on Khartoum 1 yielded a few "Later Stone Age" artefacts. They were never common and seemed to be at random in the deposit. It is important to note that the vast majority of them were undiagnostic flakes and that they were heavily weathered. From the point of view of *etat physique* they are comparable with the weathered (and undescribed) series collected in Structure L Collection 1 along with the Khartoum "Later Stone Age" Phase 6 surface material described in Appendix 1. The Phase 6 material is unweathered and so on the basis of *etat physique* and on stratigraphic evidence the "Later Stone Age" Phase 6 in the Riet River Valley must post-date, in part, the occupation of the Khartoum 1 Settlement Unit.

6. COLOURING MATTER

Excavations in Khartoum 1, Structure L yielded a total of 41 fragments of red ochre weighing some 88 grams altogether. Ochre was certainly ground by the inhabitants of the Settlement Units for traces of ochre have been found on some grindstones collected by the writer and by Maggs (1971: 55).

7. FAUNAL REMAINS

The excavations in Khartoum 1, Structure L, produced a total of 2 121 bone remains excluding ostrich egg-shell fragments. As mentioned in the descriptions of the actual excavations, the bones were in a poor state of preservation and the hard nature of the deposit, which made excavation difficult, added further to the problem of recovering all the faunal remains in relatively good condition.

The bones were recovered throughout the deposit, but a large percentage of them were located in a very fragmentary state on the surface of the hard floor layer, giving the impression of having been "tramped" on the floor.

Mrs Elizabeth Voigt of the Transvaal Museum undertook an analysis of the faunal remains from Khartoum 1 (Voigt 1972) and as a result two faunal assemblages from Type R Settlement Units are now available for study; the second assemblage is that recovered from OFD 1 by Maggs (1971).

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The list of fauna represented in these assemblages is given below together with their presence at or absence from the two Settlement Units: (The figures quoted represent the minimum number individuals present.)

| | <i>OFD 1 Khartoum 1</i> | |
|---------------------------------|-------------------------|------|
| Cattle | 4 | — |
| Wildebeest/hartebeest | 1 | 1 |
| Bovid (medium). | 1 | 1 |
| Sheep/goat | 3 | — |
| Springbok | 3 | 3 |
| Antelope (small) | 1 | 2 |
| Unidentified bovid | — | 3 |
| Non-bovid | — | 1 |
| Rock rabbit | 1 | — |
| Viverrid (medium) | 1 | — |
| Viverrid (small) | 2 | — |
| Rodent (small) | 2 | — |
| Elephant shrew | 1 | — |
| Bird (medium) | 1 | — |
| Ostrich egg | several | many |
| Lizard | 2 | — |
| Frog | 1 | — |
| Fish | 1 | — |
| Fresh-water mussel | 6 | 1 |

Maggs (1971 : 56) divided the fauna from OFD 1 up in 4 groups in terms of human activity:

- (1) herding of cattle and small stock,
- (2) hunting of springbok and larger and smaller antelope,
- (3) collecting of tortoises and ostrich egg-shell, and
- (4) exploitation of the riverine fauna in the form of frogs, fish and fresh-water mussels.

These four categories seem to provide a useful analysis of the faunal exploitation habits of the Type R peoples and so we may consider them with reference to Khartoum 1. Clearly the most important group missing from Khartoum 1 is the “domesticated” group; there was no direct evidence of domestic animals at Khartoum 1 although the highly fragmentary nature of the faunal remains may well disguise their presence—Voigt did remark that some of the teeth had been compared with comparative goat and sheep material, but were most similar to a comparative springbok dental series.

The second group—hunting of antelope—is well represented at Khartoum 1.

There is clear evidence of the exploitation of tortoises and ostrich egg-shell at Khartoum 1; the large quantities of the latter have been remarked upon above. The rodent-viverrid group is not represented at Khartoum 1 although there is indirect evidence of their existence (even if not their exploitation) in the fact that one of the bones recovered had been heavily gnawed by a rodent (Voigt 1972); despite the lack of direct evidence it is possible that these animals were exploited by the inhabitants. It is also conceivable, of course, that their presence at OFD 1 is overemphasised by the fact that these burrowing animals may have died in the deposit after the abandonment of the Settlement Unit.

Khartoum 1 provides scant evidence of the exploitation of the riverine fauna in the single mollusc recovered; Maggs (1971 : 56) found more extensive evidence of the use of river foods

and there is no reason to doubt that these exploitation patterns were broadly similar on the two Settlement Units. The writer has noted the occurrence of fresh-water mussels as far away as Driekopseiland and so their distribution does not seem to have been confined to any particular section of the Riet River.

Maggs (1971: 56) suggested, on the basis of his OFD 1 evidence, that "The herding of cattle and small stock must have been one of the main activities of the settlement and it seems to have supplied the majority of the protein food." The structure and nature of the Settlement Units seem to support the first part of Maggs' contention, but the lack of domestic faunal remains at Khartoum would suggest that he has overemphasised the importance of domestic stock in the diet of the inhabitants; had Khartoum 1 been excavated before, or instead of OFD 1 there would only have been indirect evidence of access to domestic stock in the stone Structures. It is also possible to argue against Maggs' emphasis on domestic stock as the major source of protein from a purely theoretical point of view. It is well known that in many African societies the possession of domestic stock is a symbol of wealth (Wilson and Thompson 1969) and so it would be somewhat anomalous to find a group in a relatively poor economic state relying on domestic stock as their main source or protein.

It would seem therefore that we do have direct evidence of domestic stock on Type R Settlement Units and that the inhabitants did sometimes slaughter these animals, but to regard their proportion of occurrence in the two assemblages as being a reflection of their part in the diet of the people would seem to be an over-exaggeration; clearly, by the same token the lack of rodents-viverrids at Khartoum 1 cannot be regarded as evidence that they were *not* exploited on that Settlement Unit. On the other hand, the occurrence of springbok and other antelope at both Settlement Units may be a reflection not only of their abundance in the area, but also of some aspects of the hunting habits of the people.

Voigt (1972) found that "at least two of the seven identified bovid individuals were juveniles," and remarks elsewhere that three very fragmentary metapodials could either have come from a bovid smaller than a springbok or from a juvenile of the springbok-hartebeest sized category. We thus have clear evidence of the exploitation of juvenile as well as adult animals at Khartoum 1. At OFD 1 Maggs (1971: 55) says, "Detailed work on the age of the animals has not been undertaken but it is very noticeable that the majority of the bovids, both domestic and wild, were juveniles." According to Liversidge (pers. comm.) springbok do not seem to have a definite lambing season, but all other bovids do. Although nothing concrete can be inferred from the springbok juveniles, the existence of other bovid juveniles at both Khartoum 1 and OFD 1 would tend to suggest that at whatever seasons the Settlement Units may have been occupied, there is at least a broad coincidence between the occupations of Khartoum 1 and OFD 1. In the absence of more detail on ages and larger samples it is not possible to say more; certainly a detailed isolation of season, like that achieved by Parkington and Poggenpoel (1971) is not possible.

8. FLORAL REMAINS

No direct evidence of floral remains was recovered from Khartoum 1. This was also the case at OFD 1 but here Maggs was able to infer that the row of post-holes probably at one time supported wooden posts, so this does provide some indirect evidence of the use of floral materials.

Enough charcoal for C14 dating was recovered from Structure L and this provides evidence of the use of floral remains as fuel for fires. The charcoal fragments were far too small for any identification to be attempted.

DATING

The charcoal sample recovered from the excavations in Structure L on Khartoum 1 was submitted to Dr J. C. Vogel of the National Physical Research Laboratory in Pretoria for C14 dating.

Dr Vogel has communicated the following date for the sample:

Pta 717. Khartoum 1c 170 ± 50 B.P.
A.D. 1780.

This result would seem to suggest that the Settlement Unit Khartoum 1 dates roughly to the end of the eighteenth century or early nineteenth century, and is in good accord with the available historical evidence.

The writer has undertaken a detailed study of references to the Riet River area contained in the journals of the early travellers (Humphreys 1972) and several interesting points emerged as a result. The full details cannot be repeated here but a brief summary of some of the points is necessary.

Perhaps the most important single event in the recorded history of the Riet River was the Difaqane of the 1820's. There is a scant information on the actual impact of the Difaqane on the peoples in the Riet area but a consideration of the experiences of travellers who visited the area before and after the upheavals can throw light on some of the changes that took place as a result of the Difaqane. The most important direct information on conditions along the Riet River is to be found in the writings of Andrew Smith (1939) who travelled along the river from roughly the present day Kalkfontein Dam to the confluence of the Riet and Vaal Rivers in 1834-5. Smith seems to have passed very close to the spot where Khartoum 1 and 2 are located, but he makes no reference to people living there. On the basis of Smith's evidence therefore it would seem that the Settlement Units were abandoned before 1834.

Several early travellers make reference to the Riet River area in the pre-Difaqane-days (Burchell in 1811, and Campbell in 1813) or the period during which the effects on the Difaqane were being felt in adjacent areas (Moffat in 1823 and Hodgson in 1826). Burchell, Campbell and Hodgson all make reference to the existence of "Stock-keeping" people along the Riet River in those days. Their comments are too vague to allow any clear identifications to be made, but the fact that this way of life existed before the Difaqane, but apparently not afterwards is suggestive. Moffat refers in 1823 to "an immense body of Mantatees . . . coming down the Yellow (Vaal) and Mud (Riet) Rivers . . ." (Schapera 1959 : 99) and this may well reflect part of the upheavals that were to change conditions along the Riet River.

A date of about 1780 for one of the Type R Settlement Units would therefore fit in well with the historical evidence. These people clearly had access to stock and may therefore relate in some way to the pre-Difaqane stock-keeping activities mentioned by some of the early travellers. On the other hand, the fact that, on the basis of Smith's evidence, the Type R Settlement Units had ceased to function by the 1830's would suggest that this way of life was destroyed by the "immense body of Mantatees" which swept down the Riet River in 1823.

A second point of interest in this radiocarbon date lies in the light it throws on the age of the Khartoum "Later Stone Age" Phase 6 assemblage. As has been shown the "Later Stone Age" artefacts lying on the surface of the deposit in Structure L must, on stratigraphic grounds, post-date the underlying deposit and so they must also post-date any C14 date derived from within that deposit. The Khartoum "Later Stone Age" Phase 6 assemblage must therefore be younger than 170 ± 50 B.P. This date falls comfortably within the time-range for Phase 6 in the Orange River Basin as defined by Sampson (1970)—the earliest date being 235 ± 80 B.P.—and so the two groups of assemblages in the Orange River Basin and in the Riet River Valley are not only typologically similar, but also relate to a similar date.

Smith (1939) records the existence of San hunter/gatherers along the Riet River in great detail and it is not impossible that these people may have been responsible for the Phase 6 artefacts, seeing that they must also have post-dated the existence of the Type R Settlement Units.

DISCUSSION

The excavations carried out on Khartoum 1 were limited in size, but some interesting data were nevertheless recovered. One of the aims of the project was to investigate the nature of the cultural material associated with the Settlement Units, with emphasis on the extent to which it reflected the external environment. An analysis of the factors determining the location of Settlement Units within their environment has been presented elsewhere (Humphreys 1972) and so the discussion here will be confined to a few remarks on the cultural material itself.

The establishment of a settlement of sufficient permanence to justify the construction of some Structures presupposes the availability of certain basic commodities. A constant water supply is, for example, clearly a priority. This need is, however, something more than the existence of a river a kilometre away: there must be some provision for a water supply within the Settlement Unit. This need was probably fulfilled by the use, certainly, of pots and, possibly, of ostrich egg-shell containers. The availability of large reliable water containers must have gone hand in hand with the establishment of permanent stone-built Settlement Units. Pottery seems to have appeared in the "Later Stone Age" around 1200 (Sampson 1970) and a knowledge of pot-making was probably a prerequisite for the development of permanent Settlement Units.

Although not "cultural" in the strict sense of the word, a constant food supply would also have been a necessity and this, too, is reflected in the remains recovered from Khartoum 1. The four groups into which the faunal remains were divided above are a good reflection of human activity within the prevailing environmental situation: The inhabitants clearly kept or had access to cattle and sheep and/or goats and their remains are reflected in the faunal assemblage from OFD 1. The existence of various Structures on the Settlement Units which could be interpreted as kraals are a further reflection of the herding of stock (see below). Wild animals such as springbok and others were hunted as a meat supply. Smaller animals such as tortoises were collected in the veld as an additional food supply; ostrich eggs, in addition to the use of the shells, could have been a good supply of food. The riverine fauna, in the form of fish, frogs and mussels, may also have been exploited, but there is but scant evidence of this. No evidence of plant or vegetable remains was found but we may assume that the floral resources of the area were also exploited.

The existence of bone points, incised bone and ostrich egg-shell testifies to the further use of some of the "food waste products".

The rare metal objects, as well as the red ochre, are evidence of contact, through trade, with peoples living other ways of life. The metal objects are likely to have been obtained from Iron Age peoples to the north and so the existence of these objects of trade on Settlement Units may be interpreted as a reflection of the cultural environment with which the Type R peoples came into contact.

The limited nature of the excavations and the low incidence of cultural objects in the deposits have made it impossible to define the parameters of any artefact making habits in detail and such definition will have to await much more extensive excavation. The material yielded nevertheless does give some insight into the relationship of the peoples to their environment.

A second aim of the excavations on Khartoum 1 was to throw some light on the function of the various Structures on a Settlement Unit, and so we must now consider what the results of the excavations tell us.

During the excavations soil samples were collected from those levels thought to have been associated with the occupation of the Settlement Unit; the hard floor layer in Structure L and the levels on which the base of the walling in the excavated Structures was built. As a control, samples were collected from unexcavated Structures and the open ground surrounding the Settlement Unit. These soil samples were then tested for the percentage P_2O_5 in them in the hope that differences in the P_2O_5 level would give some clue as to the different activities carried on in the various Structures. Full details on the samples and the analysis are given in Appendix 2. We may summarise the result by saying that there was not a great variation in P_2O_5 level from sample to sample but where differences did exist, the higher values were usually from within Structures or from occupation levels. Maggs (1971: 61) found a similar situation on OFD 1 but the samples from within the enclosures showed a very much higher level of P_2O_5 than did any of those from Khartoum 1. This difference in P_2O_5 level may be due in some measure to different techniques of analysis rather than being related to variations in the intensity of occupation between the two Settlement Units.

The relatively higher levels of P_2O_5 within the Structures on Khartoum 1 suggest that the areas in the enclosures were subjected to more intensive habitation than the areas outside. A soil sample from next to the wall Structure F did not show a higher P_2O_5 level than the surrounding area and so there is no evidence from this point of view to show a great concentration of activity adjacent to this Structure.

Two of the small enclosures were excavated (one each from Khartoum 1 and 2) but neither excavation produced any evidence to show what activities might have been carried out in the enclosures. Apart from the virtual absence of cultural material it was not possible even to identify the floor on which the occupation would have taken place; its position could only be established on the basis of the level on which the wall appeared to have been built. Maggs (1971: 49) excavated one of the small enclosures on OFD 1, and he too was unable to find any occupation floor; he did, however, find many sherds and some bone and tentatively suggested that, "the material suggests that domestic activity connected with food took place in the enclosure". There is no evidence to support such an interpretation for the two Khartoum enclosures; on the contrary, the very absence of cultural material would suggest that whatever activities were carried out, they were not such as to produce much debitage. The fact that small enclosures on some Settlement Units have produced some cultural remains while those on others have been virtually sterile shows that the enclosures may have been used for a variety of activities and that any one specific function cannot be determined or laid down to explain their existence. The wide range in diameters of these enclosures seems to support this view.

The large central enclosure, however, presents a different picture; both on Khartoum 1 and OFD 1 it produced most of the cultural material. From the range of materials found in the large enclosure, there seems to be little reason to doubt that it represented a focus of attention to the inhabitants: the existence of pottery fragments, tools, ornaments and food remains, as well as a concentration of lower grindstones testifies to a large range of activities having been carried out within the enclosure. Maggs (1971: 48) found a series of post-holes running within the large enclosure of OFD 1 and suggests that, "on present evidence the holes seem to have held uprights to form a wall". Although the entire large enclosure on Khartoum 1 was not excavated it does seem highly unlikely that a similar line of post-holes should exist—the soil overlying bedrock when the Structures were built was not deep enough to allow the digging of holes to support uprights. If the purpose of the OFD 1 post-holes was to form some type of screen then a comparable structure on Khartoum 1 would probably have had to have been

propped up rather than planted in the ground. However, the possibility of the existence of some type of "partition" in the large enclosure would seem to provide further evidence to suggest that the enclosure formed a focal point in the lives of the inhabitants. The central position of the large enclosure, of course, also supports this idea. Maggs (1971 : 42) remarked about the large enclosures that, "It is difficult to think of any purpose for them other than livestock pens". This may well have been one of their functions but clearly they were used for a variety of other activities as well.

Recently David (1971) drew attention to the multitude of problems involved in trying to reconstruct the social and domestic activities undertaken in a settlement in terms of archaeological remains. He tested several of the approaches in current use in archaeology and found them generally to be of limited value and concluded that, "The difficulties are obvious enough and . . . sufficient to dissuade the most sanguine archaeologist from common-sensical reconstructions of social organisation. But the balance must not be allowed to swing so far as to inhibit all attempts at inference. Rigorous methods to test propositions about prehistoric social life exist . . . though it should not be forgotten that such methods cannot prove an hypothesis, but only fail to reject it. The most urgent requirement at present is for detailed case studies that mediate between the ethnographers' structural models and the technologists' model of structures."

In absence of well-tested hypotheses and in view of the obvious complexity of the social patterns which must have underlain the occupation of the Settlement Units it seems safest to leave speculation on the social patterns prevailing on one of these Settlement Units until much more detailed evidence is available.

CONCLUSION

The purpose of this paper has been to report on excavations carried out on a Type R Settlement Unit. The results of the excavations are limited in scope, but they do serve to compliment, and in some cases amplify, the results obtained by Maggs (1971) on OFD 1. The Type R Settlement Units represent a relatively unique occurrence in the archaeological record and a full understanding of how they functioned and what their relationship was to "hunter-gatherers" or "farmers" will have to await the large-scale excavation of several of the Settlement Units—an undertaking which was beyond the scope of the project described in full in Humphreys (1972), of which these excavations were a part.

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APPENDIX 2

SOIL ANALYSIS

A series of 13 soil samples was collected from Khartoum 1 and 2 for analysis. The primary object of the proposed analysis was to determine whether or not there was a higher P_2O_5 value for samples taken from within the enclosures than for samples from the areas surrounding the Structures.

Mr O. E. Bergh of the Kimberley Phosphate Co. (Pty) Ltd. (KIMFOS) kindly undertook to have the samples processed in his laboratory. The samples were numbered at random and submitted to Mr Bergh who reported as follows:

| Sample No. | %P | % P_2O_5 |
|------------|-------|------------|
| 1 | 0,05 | 0,12 |
| 2 | 0,075 | 0,17 |
| 3 | 0,08 | 0,18 |
| 4 | 0,062 | 0,14 |
| 5 | 0,075 | 0,17 |
| 6 | 0,07 | 0,16 |
| 7 | 0,038 | 0,087 |
| 8 | 0,062 | 0,14 |
| 9 | 0,045 | 0,103 |
| 10 | 0,04 | 0,092 |
| 11 | 0,055 | 0,13 |
| 12 | 0,038 | 0,087 |
| 13 | 0,055 | 0,13 |

The precise locations of the soil samples on Khartoum 1 can be seen in Fig. 3 for those not obtained within excavations, and in Fig. 6, 7 and 8 for those from within excavations, or associated with excavated areas. The positions may be summarised as follows:

| | | |
|----------|------------|---|
| Sample 1 | Khartoum 2 | Structure A, Exc 1. Just outside wall below excavation. |
| 2 | Khartoum 2 | Structure A, Exc 1. At level of base of wall. |
| 3 | Khartoum 1 | Structure J, Exc 1. At level of base of wall. |
| 4 | Khartoum 1 | Structure J, Exc 1. Just outside wall below excavation. |
| 5 | Khartoum 1 | Structure L, Exc 1. Within hard floor layer. |
| 6 | Khartoum 1 | Structure L, Exc 1. Just above hard floor layer. |
| 7 | Khartoum 1 | Structure L, Exc 1. Just outside wall. |
| 8 | Khartoum 1 | Structure B. |
| 9 | Khartoum 1 | Structure D. |
| 10 | Khartoum 1 | Open area just north of Datum D1. |
| 11 | Khartoum 1 | Structure G. |
| 12 | Khartoum 1 | Adjacent to Structure F. |
| 13 | Khartoum 1 | Open area between Structures E, F, G and L. |

A glance at the results obtained in the soil analysis will show that there is very little difference in the P_2O_5 value between individual samples. However, if the differences that do exist are studied in detail, some correlation between P_2O_5 value and position on the Settlement Units can be seen. The following groupings show this correlation:

| <i>Position on Settlement Unit</i> | <i>%P_2O_5</i> |
|------------------------------------|---------------------------------------|
| Area outside Structures: | 0,12; 0,14; 0,087; 0,092; 0,087; 0,13 |
| On suspected living floors: | 0,17; 0,18; 0,17; 0,16 |
| Within other Structures: | 0,14; 0,103; 0,13 |

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From this grouping it is clear that the highest values (0,16—0,18) were recorded for samples from established or suspected living floors or levels. Moderately high levels were recorded from within the other Structures samples (0,103—0,14). The samples from the “open” areas have, however, yielded a wide range of values but this can be broken into two groups: the first consists of values ranging from 0,087—0,092 (which are the lowest recorded), while the second group ranges from 0,12—0,14 and overlaps the values obtained from samples from unexcavated Structures. It is interesting to note, however, that all the “high” values in the second group were obtained from samples that were collected immediately down-slope from Structures while the “low” values were from samples not directly in line with any Structure. A possible explanation for these “high” values may therefore be found in the fact that the areas immediately below Structures may have an abnormally high level of P_2O_5 (compared to the other areas) because of percolation down from the Structure level just above.

Whatever the explanation for the anomalies in the samples from the areas outside the Structures, there can be no denying that the highest values obtained are from living levels. This relatively high level may well be a reflection of the fact that the Structures concerned were inhabited by man or animals.

We may therefore conclude that there is some evidence to show that the Structures were probably inhabited, but that there was apparently no difference in the intensity of habitation in either the large or small enclosures, if the interpretation of the values of P_2O_5 can be stretched to this extent.

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